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ABSTRACT

A statewide survey of over 10,000 credit and non-credit students enrolled in 16 North Carolina community colleges and technical institutes in spring 1974 was conducted in order to develop a profile of these students and to analyze relationships between selected demographic, socioeconomic, academic, and educational program area variables. Among the conclusions reached were: (1) the current concept of the community college is inadequate and needs reconsideration, taking the increasing numbers of "new" students into account; (2) the state's community colleges and technical institutes tend to live up to their claim as "people's colleges", but only when all students (credit, non-credit, full-time, part-time, and extension) are considered together; (3) the colleges are moving to serve a broader cross-section of the population; (4) community colleges represent a major social force in providing educational opportunities; (5) students in different educational programs learn of program offerings and are influenced to enroll in particular institutions in different ways; (6) the charge that community colleges/technical institutes have socially stratified educational programs has some merit; and (7) the positive relationship found between student socioeconomic status and educational program area was neither consistent across all socioeconomic variables nor very strong. A study of the educational value orientations and of the institutional characteristics influencing college choice of the respondents is presented in the concluding section of the report. (JDS)

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Profile of Students in North Carolina Community Colleges and Technical Institutes

ED 136 846

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Robert G. Templin, Jr.
David E. Daniel

JC 770 185

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Raleigh, North **Carolina**

PROFILE OF STUDENTS IN NORTH CAROLINA COMMUNITY COLLEGES AND TECHNICAL INSTITUTES

A Summary of Research Findings

Ronald W. Shearon
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David E. Daniel*

This project was supported by the North Carolina Occupational Research Unit, Vocational Education Amendments of 1968 (P.L. 90-576) Title I--Part C, Sec. 131(b); the Department of Community Colleges; the North Carolina State Board of Education; and the Department of Adult and Community College Education, North Carolina State University, Raleigh, North Carolina 27607

June, 1976

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FOREWORD

--Who are the students enrolling in the North Carolina Community College System?

--Are they representative of the adult population in North Carolina?

--How are student profiles changing?

--Why do they enroll?

--What do students plan to do when they complete their studies?

These are but a few of more than fifteen questions answered in a major project conducted by researchers at North Carolina State University in cooperation with the North Carolina Department of Community Colleges. Students in a scientific sample of over 10,000 persons enrolled in community colleges and technical institutes during 1974 responded to a 45-item questionnaire designed to answer these questions. A few highlights from those responses are listed herein.*

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*These highlights were taken from Profile of Students in North Carolina Community Colleges and Technical Institutes, Volume I--Technical Report by Ronald W. Shearon, Robert G. Templin, Jr., and David E. Daniel, Raleigh, North Carolina, June, 1976.

WHO ARE THE STUDENTS?

Recognizing the diversity of students found at most community colleges and technical institutes, it is an oversimplification to refer to any one type of student as being "typical." The following profile represents a statistical averaging of student characteristics which offers a useful generalization, but does not reflect the tremendous diversity which exists in the student body.

Profile of the "Typical" Student

This "typical" community college/technical institute student is most likely to be white, about 28 years old, and could be either male or female. In either case, this student is married, lives at home with his/her spouse and children, and is a resident of North Carolina. He/she has an annual income of less than $7,500 and has earned at least a high school diploma or its equivalent.

The parents of this "typical" student have an annual income of almost $10,000, but probably did not complete high school. The head of the student's household is employed in a blue-collar or a white-collar occupation.

The "typical" student enrolls for classes on a part-time basis, either for credit or noncredit with nearly equal probability. If enrolled for credit, this student most likely would be in a technical program; if enrolled on a noncredit basis, the student probably attends occupational extension classes. This student participates in one or two courses scheduled during the day or evening. Academically, this student maintained a "B" average while in high school and graduated in the middle or upper one-third of his/her high school class.

Profiles of Credit and Noncredit Students

Credit and noncredit students are similar in many respects, but along several characteristics they are quite different:

--Time of day when attending classes: Noncredit students (71%) are more likely to attend classes in the evening than are credit students (34%).

--Sex: Credit students are more likely to be males (61%), while noncredit students are more likely to be females (69%).

--Race: Nonwhite students are more likely to be in noncredit courses (32%) than credit courses (18%).

--Age: Noncredit students tend to be older than credit students. The average age of noncredit students is 36 as compared to 24 years for credit students.

Correcting Some Misconceptions About Students

It is apparent from the foregoing student profiles that the popular concept of the typical community college/technical institute student as an 18 to 21-year-old, recent high school graduate who attends credit classes full time during the day, and who depends upon his parents for the majority of his financial support is a widely shared misconception about who is being served by community colleges and technical institutes. In the first place, most of those students are not even enrolled in credit courses; of those who are, many are not necessarily working toward a degree. Second, even among credit students, the popularly held concept of a typical community college/technical institute student is inaccurate. Only among the 7% who are enrolled in college-transfer programs did the student profile approach the description which in the past was assumed to characterize most postsecondary students. These "new" students:

--Tend to be older, representing an age range from 26 to 49 years.

--Are married, work full time, and often earn more money than the younger, traditional students.

--Attend classes part time in the evening.

--Would not have continued their education had it not been for the presence of a community college or technical institute within easy driving distance of their homes or places of work.

ARE THE STUDENTS REPRESENTATIVE OF THE ADULT POPULATION?

One of the major tenets of the egalitarian "open door" or "total education" philosophy is the belief that North Carolina community colleges and technical institutes should serve a cross section of the population. Based upon the findings of this study, it was concluded that:

--Overall, community colleges and technical institutes tend to attract a proportional representation of most segments of the State's adult population. If any groups are especially overrepresented, they tend to be racial minorities and those in low-income groups.

--Groups that tend to be underrepresented in student enrollments are persons who are not high school graduates and older adults who are 50 or more years of age.

--Student characteristics mirror those of the State's adult population only when enrollments in both credit and noncredit courses are considered together. Neither credit nor noncredit student groups are by themselves representative of the adult population.

--Among credit students, females, nonwhite adults, persons who are not high school graduates, and persons 30 years of age and older are underrepresented in enrollments when compared with the adult population.

HOW ARE STUDENT PROFILES CHANGING?

For purposes of detecting changes in student profiles, data on credit students were compared for a five-year period between 1969 and 1974. Some of the changes in student profiles for credit students are as follows:

--A trend toward enrolling a larger percentage of students who are female, nonwhite, between the ages of 26 and 49, married, and living in residences other than with their parents.

--A tendency for credit students to come from higher income groups and to have more formal education in 1974 than in 1969.

--Changes in credit students include an increasing percentage enrolling in technical programs, attending classes in the evening, enrolling part time, employed full time, and who would not have attended any other higher education institution had a community college or technical institute not been available.

--Changes in credit student plans include an increase in the percentage who plan to continue their education toward the baccalaureate and who plan to be employed in North Carolina.

--Community colleges and technical institutes are moving in the direction of serving a greater representation of the population with regard to sex, race, and middle-aged groups enrolling in credit programs, but not with reference to older students and those with little formal education.

WHY DO STUDENTS DECIDE TO ATTEND COMMUNITY COLLEGES AND TECHNICAL INSTITUTES?

Since the emergence of the community college movement nationally, these institutions have been plagued by the popular notion that they are second-rate places for higher education. According to the students who attend, however, this notion appears to be unfounded:

- --Eighty percent of the students surveyed rated their community college or technical institute as their first choice over other forms of postsecondary education.

- --Even among the 20% who indicated the institution they were attending was not their first choice, nearly one-third reported their first choice was a community college or technical institute located in another part of the State.

Asked if they would have continued their education had it not been for the existence of their community college or technical institute, students indicated the following:

- --Eighty percent of all noncredit and 40% of all credit students reported they would not have continued their education had the local institution not existed.

- --The types of students who most often reported they would not have continued their education were such groups as those enrolled in vocational programs and noncredit courses, part-time students, those whose parents or who themselves had little formal education, lower income students, and persons in the middle-age an older age groups.

Importance of Institutional Characteristics

Asked what institutional characteristics influenced them most in their decision to attend a community college or technical institute, students noted the following, in descending order of importance:

- --Location (proximity to their home),

- --Educational programs or courses available,

- --Low cost of tuition and expenses, and

- --Quality of instruction.

Reasons for Continuing Education

Asked why they chose to continue their education, the following reasons were reported by students:

--When credit and noncredit students were considered together, the reasons ranked highest were to earn more money and to get a better job.

--Credit students considered earning more money and getting a better job to be the most important reasons for continuing their education.

--Noncredit students differed from credit students, with their single most important reason being to learn more things of interest. Somewhat less important, but ranked closely together, were such reasons as to earn more money, to gain a general education, and to contribute more to society.

--The least important reasons cited by students for continuing their education were because their parents or spouse wanted them to attend or because there was nothing better to do.

Other Factors Related to Student Attendance

Distance. For most practical purposes, North Carolina community colleges and technical institutes have their greatest attendance among credit students who live 20 miles or less from campus and among noncredit students who live 10 or fewer miles from where classes are offered. Once educational activities are removed farther than those distances from where people live or work, the attendance rate drops substantially.

Financial Aid. Students reported that they depend primarily upon their own resources and not on financial assistance programs for support while enrolled.

Recruitment. From an inquiry into sources of information and types of persons that most influence students to enroll in community colleges and technical institutes, the following conclusions were reached:

--Credit and noncredit students differ with regard to how they learn about the institution and its offerings. Credit students rely more heavily upon institutional literature, whereas noncredit students more often receive information from friends and the news media.

- --Persons who are most influential with a potential student are not always used as sources of information about the institution's programs. For instance, parents and spouses, who were most influential with credit students with regard to attending the local institution, seldom were cited as sources of information regarding the college or institute's programs.

- --Certain persons who are commonly presumed to be both informational centers and sources of influence among credit students appear not to be as important as assumed. For example, high school counselors were reported by only 5% to 10% of credit students as sources of information about a community college or technical institute. High school counselors were cited even less frequently as having influenced students' decisions to attend a particular institution.

WHAT ARE STUDENT PLANS?

When students were asked what they planned to do upon completion of the program in which they were enrolled, their responses were the following:

- --Nearly 69% of the credit students surveyed were relatively certain that they would remain and be employed in North Carolina upon completion of their educational program.

- --Among credit students, 89% in college-transfer, 32% in technical, and 16% in vocational programs reported plans to work toward a baccalaureate degree.

- --One-third of both technical and vocational students were undecided with regard to their plans to pursue a baccalaureate degree, presumably due in part to the limited opportunities for them to transfer to a four-year program.

- --Over one-third of all noncredit students planned to enter a credit program in the future.

MAJOR CONCLUSIONS

In summary, North Carolina community colleges and technical institutes:

--Serve a diverse and nontraditional student population.

--Tend to live up to their claim of serving most segments of the State's population, but only when credit and noncredit students are considered together.

--In general, are moving with time toward serving a broader cross section of the State's adult population in their credit programs.

--Represent a major social force in providing educational opportunities to the people of North Carolina.

--Must be located close to the people they are meant to serve if they are to remain accessible to all North Carolinians.

--Are chosen first by their students over other postsecondary educational institutions.

--Need recruitment strategies designed to inform those who are most influential with students.

--Serve students who are motivated to enroll for reasons of anticipated economic gain and self-improvement.

--Influence students to attend primarily because of their location, educational programs offered, low cost, and the quality of instruction.

--Enroll students who depend primarily upon their own resources and not on financial assistance programs for support while continuing their education.

--Have a majority of credit students who plan to be employed in North Carolina following the completion of their educational programs.

--Serve an increasing proportion of students in technical, vocational, and noncredit programs who plan to continue their education beyond their current program of study.

OCCUPATIONAL EDUCATION RESEARCH PROJECT -- FINAL REPORT

Vocational Education Amendments of 1968 (P.L. 90-576)
Title I, Part C, Sec. 131 (b)

PROFILE OF STUDENTS IN NORTH CAROLINA COMMUNITY COLLEGES AND TECHNICAL INSTITUTES

VOLUME I -- TECHNICAL REPORT

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June, 1976

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PROFILE OF STUDENTS IN NORTH CAROLINA COMMUNITY COLLEGES AND TECHNICAL INSTITUTES

VOLUME I -- APPENDIX A

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This project was supported by the North Carolina Occupational Research Unit, Vocational Education Amendments of 1968 (P.L. 90-576) Title I--Part C, Sec. 131 (b); the Department of Community Colleges; the North Carolina State Board of Education; and the Department of Adult and Community College Education, North Carolina State University, Raleigh, North Carolina 27607

June, 1976

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Foreword

Appendices "A" and "B" of Volume I provide a detailed description of the technical procedures used in conducting this study of student profiles in the North Carolina Community College System. Appendix "A" concentrates on the broad rationale for studying student characteristics and specifies 13 of the 15 research questions investigated. A description of the research methodology includes the population and sample design, validation process, instrumentation, and data analysis techniques. The answers are given for each of the 13 questions, accompanied by a description of the "typical" student in each educational program area. Conclusions, implications, and recommendations for further research are included.

In seeking answers to the remaining research questions, Appendix "B" focuses on value orientations toward education (reasons for continuing education) and institutional characteristics that most influenced students to attend community colleges/technical institutes. Several models of value orientations toward education are considered. A new model is presented based on the Houle typology, a prototype that characterizes reasons why adults seek continuing education, and factor analysis of the data. Likewise, conclusions, implications, and recommendations for further research--particularly with regard to student value orientations toward education--are presented.

Detailed presentations of methodologies used in securing and analyzing the data and tables of raw scores are in the several addenda appended to Volume I.

Volume II, "An Overview," which is a foreshortened, nontechnical report for general use, is in preparation and will be available in the very near future.

Appreciation for their encouragement and support of this study is extended to the North Carolina State Board of Education; Dallas Herring, Chairman of the Board; Ben E. Fountain, Jr., State President, North Carolina Department of Community Colleges; and Fred W. Manley, Project Officer, North Carolina Occupational Research Unit. Special thanks are extended to Edgar J. Boone, Head, Department of Adult and Community College Education at North Carolina State University, for his invaluable leadership and cooperation.

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--The Authors

SUMMARY

Data regarding the characteristics of students currently enrolled in North Carolina Community College System institutions were gathered, analyzed, and updated. Specific objectives were to:

--Replicate and update Gerald M. Bolick's 1969 report, Socio-Economic Profile of Credit Students in the North Carolina Community College System, for the purpose of detecting changes in credit student profiles over the past six years;

--Provide a similar profile of noncredit extension students in the System in terms of their demographic, socioeconomic, academic, and attendance characteristics for comparative purposes;

--Provide a socioeconomic and demographic profile of North Carolina adults, 18 years of age and older, to serve as a comparison base; and

--Analyze relationships between selected demographic, socioeconomic, academic, and educational program area variables in the attainment of the foregoing objectives.

Data were obtained from a sample of 10,074 curriculum (credit) and extension (noncredit) students enrolled in 16 community colleges/technical institutes (CC/TI) during the Spring Quarter of 1974. A two-stage, stratified, circular-systematic sample design was used in selecting the institutions and the students. A 45-item research instrument was designed and administered to 13,723 students; 73% of the returned questionnaires were usable.

Eleven conclusions emanated from the research findings:

--The prevailing concept of the CC/TI student is clearly inadequate;

--Overall, North Carolina CC/TI do tend to live up to their claim as the "people's colleges," but only when all students in all educational programs are considered together.

--North Carolina CC/TI are generally moving with time toward serving a greater cross section of the State's population in their curriculum programs;

--Community colleges/technical institutes represent a major social force in providing educational opportunities to the people of North Carolina;

--If CC/TI are to remain accessible to all the people of the State, they must be located close to the people they are meant to serve;

--North Carolina CC/TI are chosen first by their students over other forms of postsecondary education;

--Community college/technical institute students depend primarily upon their own resources and not on financial assistance programs for support while continuing their education;

--Most curriculum students plan to be employed in North Carolina following the completion of their educational program;

--An increasing proportion of students in "nontransfer" programs plan to continue their education beyond their current program of study; and

--There appears to be some merit to the charge that CC/TI have stratified educational programs, although not as extensively as critics claim.

Although overall CC/TI tended to fulfill their claim of being the "people's colleges," if these institutions are to claim they are comprehensive, not only in the programs they offer but also in terms of the people they serve, they cannot substantiate that claim by making reference solely to their full-time day students enrolled in degree programs. It is only when all students--day and evening, full-time and part-time--and all programs--extension (noncredit) as well as curriculum (credit)--are considered that these institutions approximate their comprehensive philosophy.

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INTRODUCTION

A continuing challenge facing North Carolina community college/technical institute (CC/TI) trustees, administrators, and instructional leaders is that of assessing the effect of changing student populations on those institutions' administrative policies, practices, and instructional programs. In such comprehensive adult education institutions as CC/TI, where participation is on a voluntary basis and the open admissions policy predominates, it seems axiomatic that educational leaders study and analyze learner characteristics, interests, and needs as a basis for developing and renewing educational programs. According to Bolick (1969, p. 1), "the comprehensive community college or technical institute cannot be understood without a clear, factual, and unbiased understanding of its students." This statement may be even more true today than it was in 1969. However, no major study of CC/TI student characteristics has been undertaken in North Carolina since Bolick's 1968 survey reported in 1969.

Statement of the Problem

Since 1968, student enrollments in CC/TI of the North Carolina Community College System (NCCCS) have increased, new institutions have emerged, maturing ones have become more comprehensive, and many educational program areas have been added and/or modified. While financial support at State and local levels has continued at unprecedented levels, despite recent reduction in allocations, the spiraling costs of postsecondary education--compounded by the effects of inflation, economic recession, and cutbacks in federal support--have evoked the identification of new educational priorities with emphasis upon "accountability" in terms of both educational programs and fiscal management.

For example, since 1968 enrollments in the NCCCS have increased by more than 190,000 students (North Carolina Community College System, 1970; North Carolina Community College System Enrollment, 1973). Further, enrollments in the System's curriculum programs increased from 59,000 in the fall of 1973 to 72,000 in the fall of 1974, and enrollments in noncredit extension courses increased from 104,000 to 127,000 in the same time period (Fountain, 1975). In addition to the aforementioned increases in student enrollments, the System is experiencing further enrollment increases as a result of the current economic "crunch." Enrollments in educational programs tend to increase during periods of economic crisis.

Meanwhile, national commissions and numerous authorities have called attention to the changing types of students entering CC/TI: the "new" student; the Vietnam veteran; the homemaker; the full-time, middle-aged student; the part-time recent high school graduate; the elderly--to mention a few (Carnegie Commission, 1970; Cross, 1971; O'Banion, 1972; Brawer, 1973; Glass and Harshberger, 1974). Concurrently, the findings of several recent national research projects explicitly challenge the reality of accessibility and equality of educational opportunity in the current structure of postsecondary education in the United States (Newman et al., 1971; Sewell, 1971; Jencks et al., 1972; Mosteller and Moynihan, 1972).

The aforementioned events and activities, all of which have occurred since 1968, point to the increasing importance of CC/TI policy-makers and educational leaders knowing "who their students are." In view of such sweeping changes, six-year-old data are inadequate for purposes of planning, offering, evaluating, and standing accountable for educational programs in the NCCCS.

Background

During the past decade, numerous writers and researchers sought to describe CC/TI students in terms of their demographic, socioeconomic, and academic characteristics. However, as will be demonstrated, all but a handful focused their attention exclusively upon a description of curriculum students, under the implicit and questionable assumption that when one speaks of "real" CC students, what is meant is those persons enrolled full time in a degree or certificate program. Descriptions of extension students--those enrolled in noncredit courses/programs--generally were excluded from discussions of students. The consequence often was the emergence of an incomplete and misleading picture whenever those writers attempted to answer the question, "Who is being served by community colleges/technical institutes?"

Curriculum Students

One of the most frequently offered descriptions of CC/TI curriculum or credit student bodies is that they are extremely heterogeneous and tend to represent a cross section of the general population (Blocker et al., 1965; Carnegie Commission on Higher Education, 1970; Collins, 1972; Monroe, 1972). The difficulty with this generalization is that it seldom was documented through comparisons of curriculum student characteristics with those of the general adult population.

Another frequently offered generalization about curriculum student bodies is that they tend to be substantially different from students enrolled at four-year colleges/universities, particularly with regard to age, socioeconomic characteristics, and academic ability (Medsker, 1960; Cross, 1968; Jencks and Reisman, 1968; McClung, 1970). This generalization was supported by extensive research which usually reported CC curriculum students as being older, scoring lower on traditional measures of academic aptitude and achievement, and from lower socioeconomic strata than four-year college/university students (Medsker and Trent, 1965; Cooley and Becker, 1966; American College Testing Program, 1969; Bushnell, 1973; Fenske and Scott, 1973; Astin *et al.*, 1974).

In terms of demographic characteristics used to describe the typical CC student, researchers generally reported student bodies composed of 62 to 75% males (Medsker, 1960; Thornton, 1966; Medsker and Tillery, 1971; Monroe, 1972) and ranging from 84 to 87% white students (Medsker and Tillery, 1971; Monroe, 1972; Astin *et al.*, 1974). With regard to age, researchers reported a median age of 18 years (Monroe, 1972), with approximately one-third of the students being 19 years of age and older (Astin *et al.*, 1974) and about one-fourth being 21 years or older (Bushnell, 1973). Twenty to 25% of the curriculum student body was reported to be married (Medsker, 1960; Bushnell, 1973), and just over one-half of all students were residing with their parents (Bushnell, 1973).

With respect to socioeconomic status characteristics of students, CC were reported most often as attracting middle and lower status groups (Carnegie Commission on Higher Education, 1970; Monroe, 1972). Bushnell (1973, p. 13) reported a median family income of about $10,000 for students and that "more than half the fathers . . . were found to have at least a high school education, and 30 percent or more had some college." Other research findings indicated that more than one-half of the student body worked at least part time while enrolled (Tillery, 1963; Knoell and Medsker, 1964; Medsker and Trent, 1965), and between 66 and 75% of all students were enrolled in college-transfer programs (Medsker, 1960; Medsker and Tillery, 1971).

What emerged from these research findings was an image of the CC student as a relatively young, white, unmarried male who might/might not live with his parents, and who worked at least part time while enrolled in a college-transfer program. He was of average or slightly below average academic ability and from a middle or lower socioeconomic status background.

The major limitation to the description of CC/TI students that emerged as a result of this generalization and its supporting research was a description based upon data collected from full-time, degree students, often omitting technical and/or vocational students, and consistently excluding part-time and noncredit (extension) students.

In a study of North Carolina CC/TI students, Bolick (1969) constructed a demographic and socioeconomic profile that reported results similar to the aforementioned research with regard to students' age, race, sex, marital status, residence, and employment status. However, Bolick reported considerable differences in terms of the educational programs in which students were enrolled and with regard to their socioeconomic characteristics. In contrast to other research findings, North Carolina CC/TI were enrolling less than one-fourth of their students in college-transfer programs and seemed to be attracting lower socioeconomic status students, at least in terms of their parents' income and father's level of educational attainment.

Although Bolick's study was one of few research efforts to investigate both part-time and full-time CC/TI students, its descriptions were confined exclusively to credit or curriculum students. In addition, as mentioned earlier, student characteristics and enrollment patterns in CC/TI have shifted dramatically, both nationally and within the State, since the completion of Bolick's 1968 survey, particularly with respect to the attendance of minority and age groups, females, low achievers, part-time students, and other "new" students (Bayer, 1972; Cross, 1972; Bulpitt, 1973; Holmstrom, 1973a,b,c; Klingelhofer and Hollander, 1973).

Extension Students

While there has been voluminous discussion on various types of credit or curriculum CC students, little systematic research was found dealing with the characteristics of noncredit, continuing education or extension students. Major works intended to treat comprehensively the CC and its students devoted only one or two pages to what amounted to an impressionistic description of those students (Blocker et al., 1965; Koos, 1970; Medsker and Tillery, 1971; Monroe, 1972). Outside of isolated research studies conducted at single institutions--and hence of doubtful generalizability (Mohawk Valley Community College, 1969; Lumsden, 1970)--only one comprehensive study was found concerning noncredit students in CC/TI (Phillips, 1970). In commenting on this problem, Cross (1968, p. 52) stated that "past research has given us little information about important subgroups of junior college students. We know very little about the adult student who constitutes an extremely important segment of those enrolled."

Turning to a broader spectrum of research dealing with the characteristics of adult education students, regardless of their institutional affiliation, Johnstone and Rivera (1965) found adult education participants tended to have more than the national average in educational attainment, with more than three-fourths tending to be less than 50 years of age.

With respect to socioeconomic status characteristics, two studies (London _et al_., 1963; Johnstone and Rivera, 1965) reported a significant relationship between participation in adult education programs and formal education, income, and occupational characteristics. At that time adults who had attended college and worked in a white-collar occupation had nearly six times the probability of participating in formal adult education programs than did those who had never gone beyond grade school and were employed in blue-collar jobs. Conspicuously low in adult education participation were housewives, retired adults, black adults, and unskilled and agricultural workers.

Johnstone and Rivera (1965, p. 78) described the typical adult education student of 10 years ago as one who is

> . . . just as often a woman as a man, has completed high school or better, enjoys an above-average income, works full time and most often in a white-collar occupation, is typically white and Protestant, is married and a parent.

In contrast, a later study of 9,545 North Carolina CC/TI students (Phillips, 1970) yielded a descriptive profile that showed females were more likely to enroll than males, some 40% of those participating were not high school graduates, and less than 5% reported annual incomes of over $10,000. Areas of agreement with Johnstone and Rivera's findings were with regard to marital and family status, age, employment status, and race.

Objectives

Taking into consideration the foregoing background information concerning CC/TI student characteristics and acknowledged need for NCCCS policy-makers and educational leaders to know who their students are, the specific objectives of this study were to:

1. Replicate and update the data in Bolick's 1969 report, _Socio-Economic Profile of Credit Students in the North Carolina Community College System_, for the purpose of detecting changes in student profiles over the six-year period from 1968 to 1974.

2. Provide, for comparative purposes, a similar profile of noncredit extension students in the NCCCS in terms of their demographic, socioeconomic, academic, and attendance characteristics.

3. Provide a socioeconomic and demographic profile of North Carolina adults 18 years of age or older to serve as a comparison base.

4. Analyze relationships between selected demographic, socioeconomic, academic, and educational program area variables in attaining the foregoing objectives.

Certain research questions were formulated, the answers to which were to constitute the guidelines in formulating the aforementioned descriptive profiles of students enrolled in the North Carolina Community College System in the Spring Quarter of 1974.

Research Questions

Research Question 1: Who are the students being served by the North Carolina Community College System in terms of their demographic, socioeconomic, academic, and attendance characteristics?

Research Question 2: Which students are enrolling in what educational program areas (college-transfer, technical, vocational, academic extension, fundamental education, occupational extension, and recreation extension)?

Research Question 3: What is the proportion of students enrolled in the Community College System compared to the proportion of the State's population who are eligible to enroll, in terms of their demographic and socioeconomic characteristics?

Research Question 4: What group(s) is/are not being served by the Community College System, in terms of their demographic and socioeconomic characteristics?

Research Question 5: What changes have occurred in the profile of curriculum students since the 1969 Bolick study?

Research Question 6: Which students in what educational program areas would least likely continue their education were it not for the existence of technical institutes/community colleges, in terms of their demographic and socioeconomic characteristics?

Research Question 7: Which students in what educational program areas are least likely to attend a community college/technical institute as the commuting distance to and from class increases?

Research Question 8: Which students in what educational program areas are selecting community colleges/technical institutes as their first choice over other forms of postsecondary education?

Research Question 9: What forms of recruitment strategies attract students in different educational program areas to community colleges/technical institutes?

Research Question 10: Which students in what educational program areas are receiving financial assistance and what is the source of that aid, in terms of their demographic and socioeconomic characteristics?

Research Question 11: Which students in what educational program areas are employed and to what extent?

Research Question 12: Which students in what educational program areas plan to work toward a four-year degree?

Research Question 13: Which students in what educational program areas plan to work in North Carolina following the completion of their formal education?

Limitations

As is the case for any research effort, the results and conclusions reached herein were subject to certain limitations due to the various designs and procedures employed. The most important limitations of this study focused around the research and sample designs, measurement errors, data analysis, and the generalizability of the results.

While survey research designs have been acclaimed as (Denzin, 1970, p. 247) "one of the more effective instruments the social scientist has for discovering and testing meaningful relationships among variables for social science," they also have basic limitations. A major limitation of the research design employed herein was its failure to provide adequate data regarding the effects of the variables under investigation. Important independent and undetected intervening variables could not be isolated and manipulated, thus giving no substantial evidence of cause-and-effect. As Helmstadter (1970, p. 69) reported, survey research "can supply us with information about the concomitants of causation, but not of a causal sequence of events in and of itself."

Another limiting factor of the research design was that it required the cooperation of persons as subjects over whom the researcher had no direct control. Deliberate distortions could have occurred in the data without being detected. In addition, even though nonrespondents were followed up, by class, to ensure that no particular type of student was systematically excluded from the study, estimation of the impact that the 27% nonrespondents might have had on the results was extremely difficult.

Two general limitations apply to the sample design. First, to the degree the assumption regarding the homogeneity of institutions and the heterogeneity of students within the institutions was false, the larger the sampling error that might be expected. Second, inasmuch as any sample is but a fraction of the total population, it could be expected that the estimates of population characteristics might deviate to some degree from true population characteristics. While sample results on some variables compared to known population characteristics with acceptable accuracy, the degree of accuracy was not necessarily the same across all variables.

Many of the errors resulting from the limiting factors of data-gathering instruments generally have been referred to as the "measurement error" of survey research. Defined by Boruch and Creager (1972, p. 2) as "the difference between a recorded response to an inquiry and a potentially measureable, true condition associated with that inquiry," measurement error had its source not only in respondents' deliberate or accidental distortion of responses, but also in data recording, transmission, and maintenance procedures. Besides possible data distortions resulting from problems in work definition, meaning, and interpretation in both questions and answers, each respondent was subject to such influences as willingness to respond truthfully, responding to perceived expectations, mood, fear that his responses would be revealed to others, lack of sufficient knowledge to respond intelligently, and hesitancy to provide personal and confidential information. These types of limitations were inherent in the measurement of all variables, since the research instrument was designed for self-reported information. Variables such as age, income, occupation, education, high school rank and average, and sources of income were particularly susceptible.

Other measurement limitations stemmed from the crudeness of the measures themselves. Occupational categories, arranged in a hierarchy, provided at best only a gross measure of occupational status. Because of the difficulties of measurement and the questionable basis upon which many composite indices of socioeconomic status rest, this research did not attempt an overall measure of socioeconomic status, per se.

Rather, observations were limited to those characteristics thought to be highly correlated with socioeconomic status, such as income, occupation, and education. The consequence of this decision was the conceptual limitation that no reference could be made directly to socioeconomic status in terms of lower, middle, or upper "classes" in the student population.

In terms of data analysis, other limitations should be reported. First, the chi-square statistic was employed with weighted percentages instead of weighted frequencies, as is the normal usage of the test. The reasoning behind that decision was based upon the characteristic of the test to yield significant differences whenever the sample size is large, even though conceptually there would be no difference between categories. By converting frequencies to percentages, sample size, in effect, was reduced to 100 to permit more useful analysis. Second, the decision to employ parametric statistical procedures, even though certain underlying assumptions were violated, could have had the consequence of distorting certain results where multivariate relationships were involved.

Finally, there are certain important limitations to the generalizability of both the results and the conclusions of this study. First, the results and conclusions are tentative, inasmuch as no exact replication of the study has been made. Second, they cannot generalize about a single individual, isolated group, or particular institution, because the sample was taken from a large, heterogeneous population. Third, results and conclusions cannot be generalized outside of North Carolina, since the study itself was limited to students within State boundaries and considerable variation could exist from state to state. Also, the results and conclusions are limited in time, since all observations were made during the Spring Quarter, 1974, and important population characteristics are sure to change with time.

The foregoing limitations are not considered particularly unique to this study. Rather, they are characteristic of any survey research conducted in the social and behavioral sciences due to both the complexity of human and social behavior and the limited research designs, methodologies, and analytical tools available to the social scientist.

Definition of Terms

Certain terms used within the context of this study are defined in the listing that follows.

Academic extension (ACAD EXT) program: all noncredit educational extension activities of a CC/TI designed primarily to meet the postsecondary needs of adults in the areas of the arts, humanities, foreign languages, science, or social sciences.

College-transfer (COL-TR) program: all credit-giving educational activities of a CC designed for students who intend to transfer to a senior college/university for their baccalaureate degree and culminating in either the Associate in Arts or Associate in Science degree.

Curriculum programs: all credit-giving educational program areas of a CC/TI, including college-transfer, general education, technical, and vocational programs.

Educational program area: a term used to differentiate the educational activities of the NCCCS into conceptually useful and operationally manageable categories for analysis. Educational program areas include college-transfer, general education, technical, vocational, academic extension, fundamental education, occupational extension, and recreation extension programs.

Extension programs: all noncredit educational program areas of a CC/TI, including academic extension, fundamental education, occupational extension, and recreation extension programs.

Fundamental education (FUND EDUC) programs: all noncredit educational extension activities of a CC/TI designed to provide adults with elementary or secondary school education.

General education (GEN EDUC) program: all credit-giving educational activities of a CC/TI involving a cluster of general education courses from one or more disciplinary areas; 30 to 45 quarter hours of general education and interest type courses, culminating in a certification in general education; and/or 96 quarter hours of general education and interest type courses culminating in a Associate in General Education degree.

Occupational extension (OCCU EXT) program: all noncredit educational extension activities of a CC/TI that are occupationally oriented and designed either to upgrade a person in his job, to develop new skills so a person may be more proficient in his vocation, or to train a person for an occupation.

Primary income: the total amount of money from all sources during the past calendar year that supported the primary family unit with which a given student identified himself (alone, with spouse, or with parents).

Recreation extension (REC EXT) program: all noncredit educational extension activities of a CC/TI designed primarily to serve the physical education, hobby, game, special interest, and/or leisure interests of adults.

Student: any person enrolled in any credit or noncredit course or program at a CC/TI.

Technical (TECH) program: all credit-giving educational activities of a CC/TI designed to prepare students for entry jobs in fields recognized as semiprofessional, generally two academic years in length and leading to an Associate in Applied Science degree.

Vocational (VOC) program: all credit-giving educational activities of a CC/TI designed to train students for entrance into a skilled occupation, ranging from one to four quarters in length and awarding certificates or diplomas

THEORETICAL FRAMEWORK

The theoretical framework presented herein explores the concept, the functional perspective, and the conflict perspective of social stratification. The discussion then turns to the relationship between social stratification and education.

Concept of Social Stratification

Social stratification is one of the most pervasive concepts found in current literature and research of both sociology and education. Although a variety of terms (social classes, social strata, etc.) are used in referring to this concept, the common underlying tenet of those employing the concept is the proposition that society is unequal with regard to the way social rewards are distributed. One of the most noted stratification theorists (Tumin, 1967, p. 12) defined social stratification as "the arrangement of any social group or society into a hierarchy of positions that are unequal with regard to power, property, social evaluation (prestige), and/or psychic gratification."

The way in which societies allocate to individuals the social rewards of "good things" of life in large part depends on the normative structure of a society, through which quotas are assigned to the statuses or social positions existing in that society. This normative structure can be likened to a system of written and unwritten rules that serves as the basis for the distribution of power, property, prestige, and psychic gratification to different social statuses. For instance, in India, a society characterized by a caste stratification system, the "rules" upon which the "good things" of life are allocated depend upon the status of the family into which one is born. In such industrialized societies as the United States, however, one's occupational position (which usually is cosely associated with the amount and type of education one has), regardless of family background, is considered the primary status upon which the distribution of societal rewards is based.

Drawing upon these ideas of the unequal distribution of the social rewards a society has to offer its members according to their socioeconomic statuses or positions, sociologists have maintained that statuses which receive roughly equal amounts of power, property, prestige, and psychic gratification can be organized into strata or classes which are hierarchically arranged and can be distinguished one from another. Sociologist W. Loyd Warner and his associates (1960), in their studies of "Yankee City," were able in this manner to describe the existence in American society of six classes which differed on the basis of inequalities of income, occupation, education, and other variables. Conceptualized in this way, societies can be envisaged as being made up of persons who are ranked into strata which unequally share in the distribution of societal rewards.

While sociologists tend to agree that all societies are stratified, they have not reached consensus as to why this is so, or as to its implications (Collins, 1971). Various opposing explanations of social stratification have been offered, but with regard to the focus of the research being here discussed, only two of the most important theories are briefly reviewed, *i.e.*, the functional perspective and the conflict perspective of social stratification.

Functional Perspective of Social Stratification

The first of the social stratification theories, presented to American sociology by Kingsley Davis and Wilbert Moore (1966), came to be known as the "functional" theory of social stratification. According to their view, social stratification is both necessary and positive, due to the requirement that each society have some means to motivate and assure that individuals be distributed to the different positions which make up that society's division of labor. Especially in a technological society where some positions require more skill and training or are more difficult to perform than others, society by necessity must provide some mechanism to ensure that these important and/or difficult positions be filled by those with the greatest talent. To motivate persons to fill those positions, society must employ a mechanism of unequal rewards. Davis and Moore (1966, p. 48) concluded that "if the rights and perquisites of different positions in society must be unequal, then society must be stratified, for that is what stratification is." Furthermore, social stratification contributes to the integration and equilibrium of social structure (Davis and Moore, 1966, p. 48) as "an unconsciously evolved device by which societies insure that the most important positions are conscientiously filled by the most qualified persons."

Conflict Perspective of Social Stratification

The second theoretical perspective of social stratification is known as the "conflict" viewpoint, first developed by Karl Marx (1951) and later reformulated by such modern theorists as Ralf Dahrendorf (1959) and Gerhard Lenski (1966).

According to this theoretical approach, social conflict is both the cause and the consequence of systems of social stratification in societies. This is in part due to the nature of man and in part due to the scarcity of the surpluses of valued things which a society has to offer its members.

The nature of man in the first instance is such that he is basically self-oriented; he attempts to realize as many of the benefits and rewards of social life as he can accumulate for himself. Having some amounts of those benefits, he seeks to protect what he has from others while continually acting to acquire more. This nature of man in and of itself would provide insufficient grounds for utilizing the concept of conflict, and particularly that of class conflict, as the fundamental explanation of systems of social stratification, were it not for the fact that societies generate only a limited amount of social rewards to their members. It is the personally acquisitive, goal-seeking nature of man, combined with the fact of the scarcity of social benefits in society, that leads to the inevitability of some men having more of these benefits than others.

Thus, according to this view, it is not that social stratification is "necessary" or that it serves to guarantee the best-qualified persons for the most important positions in society. Rather, social stratification serves those persons who have more power, property, or prestige than others by institutionalizing their privileges, enabling them to pass their privileges on to their children, and resulting in the maintenance of the status quo and the perpetuation of social inequality based on socioeconomic privilege.

Relationship Between Social Stratification and Education

The importance of the functional and conflict explanations of social stratification becomes more apparent as one examines the relationship between that concept and education. As intimated previously, sociologists and educators have long recognized the importance of the relationship between the type and amount of education received and the socioeconomic status that one ultimately attains. In viewing this relationship between education and status placement, however, writers have offered two different interpretations, depending upon whether they basically subscribe to the functional or to the conflict explanation of social stratification.

Writers with a functional bent maintain that, in the American structure of social stratification, education serves as a mechanism for the selection, training, and placement of individuals in positions commensurate with their abilities.

Education is viewed as the social institution that is best suited as a channel for social mobility and for the attainment of the American ideal of distributing statuses in society to persons on the basis of their abilities, motivation, and achievement rather than on the basis of their race, family background, or sex.

Those authors employing a conflict interpretation, however, do not agree. They maintain that while there is a strong relationship between the education a person receives and the eventual position he/she attains in the social hierarchy, access to and opportunities for education are not equal but are based upon the class privileges of the student's family. The implications of this position are that students receive educations roughly corresponding to their parents' social positions in society, regardless of their potential abilities, motivations, or achievements. As such, education as a social institution acts primarily to justify and perpetuate the existing stratification system in the United States by distributing educational accessibility, opportunities, and resources unequally and according to individual socioeconomic status.

Relationships Between Social Stratification and the Community College/Technical Institute

In this section are reviewed the literature and recent research regarding viewpoints expressed in the preceding discussion, with specific reference to the CC philosophy, relationships between the CC/TI and social stratification, and the socioeconomic characteristics of CC/TI students.

The Community College Philosophy-- A Functional Perspective

The modern comprehensive CC philosophy in many ways is in stark contrast to the conflict perspective regarding the relationship between socioeconomic status and educational opportunity. Expressing advocacy for the principle of universal postsecondary educational opportunities without distinction based on family background, race, age, or sex, CC have been established with a mission to provide educational opportunities to adults in local communities who traditionally have been denied access to the meritocratic and elitist segments of higher education. In most instances, CC have attempted to make this philosophy manifest by providing an open-door admission policy, low-cost or free tuition, geographic assessibility, diversified curricula, and varied instructional modes.

Fields (1962) described the egalitarian spirit of the CC as: (1) democratic--requiring only low tuition and other costs, providing nonselective admission policies, geographic and social accessibility, and popularized education for the largest number of people; (2) comprehensive--serving a multiplicity of students with diverse needs and abilities and providing a wide range of instructional programs designed to meet those needs; (3) community-centered; (4) dedicated to the concept of lifelong learning; and (5) responsive to social changes and individual needs of students as well as to the distinctive needs of the community and general needs of society.

With respect to the NCCCS, one finds the same consistent expression of purpose stated by Dr. Dallas Herring, Chairman of the State Board of Education (Progress Report, 1969, p. 9):

> The only valid philosophy for North Carolina is the philosophy of total education: a belief in the incomparable worth of all human beings, whose claims upon the State are equal before the law and equal before the bar of public opinion whose talents (however great or however limited or however different from the traditional) the State needs and must develop to the fullest possible degree. This is why the doors to the institutions in North Carolina's System of Community Colleges must never be closed to anyone of suitable age who can learn what they teach. We must take the people where they are and carry them as far as they can go within the assigned function of the System.

Openly opposed to the notion that higher education should be reserved to the affluent youth of society, advocates of the CC appear to subscribe to the functional interpretation of the relationship between socioeconomic status and educational opportunities, as illustrated by Monroe (1972, p. 3):

> The community college is the best instrument for realizing the dream of universal postsecondary education. The goal to maximize educational opportunities for all, the rich and the poor, the young and the old, is manifested in the development of the public community college.

The Community College--The Conflict Perspective

With the advent of the Coleman (1966) report on Equality of Educational Opportunity and more recently Christopher Jencks' (1973) research, the issues of educational opportunities and outcomes in the U.S. were subjected to deep analysis.

discussion, and debate (Mosteller and Moynihan, 1972; Editors, 1973). As a consequence, at the very least there have come to be clearer distinctions drawn between the concepts of equality of educational opportunities with regard to access to institutions, equality of educational opportunities with respect to to curriculum placement, equality of the distribution of educational resources, and equality of the d[illegible]bution of educational benefits or outcomes (Dyer, 197[illegible]steller and Moynihan, 1972; Coleman, 1973).

While the issues regarding the distribution of educational resources and benefits or outcomes at the CC level have undergone some recent analysis (Astin, 1972; Bushnell and Kievit, 1972; Corcoran, 1972), the most critical remarks directed at the CC dealt with the issues of accessibility and curriculum placement. As shall be seen in this review of criticisms, writers seemed to approximate the conflict perspective with respect to their interpretation of the relationship between social stratification and the CC.

McKee (1969), for instance, maintained that in a society such as the U.S., where the value of equal educational opportunity is openly avowed, it becomes necessary to conceal class advantages by creating institutions which only symbolically uphold the notion of equal opportunity. This, he wrote, is accomplished by the open-door policy of the CC, where less than middle-class students can come to have their aspirations lowered and to be gradually eliminated from higher education by receiving low grades and by counseling them out. This process is what Burton Clark (1960a,b) termed the "cooling out" function, which Monroe (1972, p. 39) described as the

> . . . process by which faculty and the counselors gently, through patience and persuasion, assist the misdirected student into realistic programs of general and occupational education. However, if the student resists these alternatives even after his ability to succeed in the transfer programs has been demonstrated amply, then he can be counseled to drop out in a manner that his ego is protected by making the departure from the college appear to be a voluntary decision to leave.

Failing to recognize the class basis for their academic failures, these writers argued, CC students drop out or enter a technical or vocational program, blaming themselves for their failures (Zwerling and Park, 1974).

Very closely associated with the foregoing is the criticism of the CC's seeming comprehensiveness. According to this view, instead of providing equality of educational opportunity as the open-door policy would seem to indicate, students coming from lower-class and blue-collar families who do manage one way or another to find themselves entering the CC, end up being "tracked" into curricula on the basis of their family socioeconomic status. What this means in practice is that students from lower socioeconomic backgrounds are convinced they are not "college material" and are tracked into occupational and vocational programs (Pincus, 1974). One proponent of this view (Karabel, 1972, p. 551) recently wrote:

> In a stratified society, what this diversity of educational experiences is likely to mean is that people will, at best, have an equal opportunity to obtain an education that will fit them into their appropriate position in the class structure. More often than not, those of lower class origins will, under the new definition of equality of educational opportunity, find themselves in schools or curricula which will train them for positions roughly commensurate with their social origins.

Student Socioeconomic Characteristics

Since the early 1960s, a number of descriptive research studies on full-time CC students have been conducted nationally which tended to confirm the claim that CC are accessible to many in the American population, including those who traditionally have been excluded from the structure of higher education.

Project SCOPE (Tillery, 1971), conducted in four states by the University of California, for instance, found that CC students in credit programs came from all occupational backgrounds, with about 60% from families of middle-status occupational levels and approximately 20% from both the high and low-status occupational categories. Several descriptive studies lent support to those findings, and in addition demonstrated across most measures of socioeconomic status that CC students come from lower socioeconomic backgrounds than do their counterparts at four-year colleges/universities (Medsker and Tillery, 1965; Schoenfeldt, 1968; Astin et al., 1974).

With regard to socioeconomic characteristics of students enrolled in credit programs within the NCCCS, Bolick (1969) reported that nearly three-fourths of the students were from families earning less than $10,000 per year and that fathers of some 60% had less than 12 years of education. These data seemed to indicate that North Carolina institutions were as accessible to lower and middle socioeconomic groups as were the CC nationally.

However, recent national Census data on family income indicated that while two-year college students tend to be from families with slightly lower median incomes than students at four-year colleges, about 66% of the two-year college students were from families earning $10,000 or more per year, and that this trend toward serving a greater proportion of upper-income students is increasing, even when the effects of inflation are controlled (U.S. Bureau of the Census, 1973).

Studies regarding the relationship between a student's socioeconomic status and the credit program in which enrolled were conducted by a number of researchers, one of whom (Cross, 1971b) reported that over one-half of CC transfer students were from white-collar and professional families, while only 18% were from semiskilled or unskilled families. Garbin and Vaughn's (1973) study of students in occupational programs indicated that over 60% were from blue-collar or unskilled families, while lower socioeconomic status students outnumbered those from the top two socioeconomic statuses at a ratio greater than two to one. Bushnell (1973) further confirmed those findings.

Other studies in different states reported similar findings. Lach and Olson (1972), in a study of students at Lake Land College, reported that those enrolled in vocational-technical programs were from lower-income families and had fathers with less education than students in college-transfer programs. Paralleling those findings were those of Brue and others (1971) in their study of three Iowa CC.

Bolick's (1969) study of North Carolina CC/TI students enrolled in credit programs, while conforming to patterns established in other research, found this relationship between measures of socioeconomic status and program enrollment to be much weaker, although not in a statistical sense. No follow-up of that study has been made to indicate whether or not the reported relationships have increased or weakened over time.

Research Implications

Based on the findings reported in the foregoing review of literature, theory, and related research, several implications for research can be clearly drawn. First, that current descriptions of CC/TI students were based solely on data collected from full-time curriculum students may distort one's judgment as to who is being served by those institutions. As CC systems across the nation increase their enrollment of part-time and "noncredit" or extension students to the point where those students begin to exceed in number those who are full-time curriculum students--as has already occurred in North Carolina (Annual Enrollment, 1975), it will become increasingly misleading for researchers to refer to students and issues of accessibility only in terms of those enrolled full-time in credit-awarding programs. If discussions regarding CC/TI students are to be meaningful, research must be conducted to include students in all educational program areas.

Second, based upon a total rather than fragmented description of CC/TI students, comparisons should be made with the general adult population characteristics to see if the claim that these institutions serve a cross section of the population can be substantiated empirically.

Third, given the rapid changes in student characteristics that have been reported nationally within the past half-decade, research should be conducted in North Carolina regarding changes in the characteristics of curriculum students, using the Bolick (1969) study as a basis from which to detect the magnitude and direction of such change.

Fourth, given the scarcity of research concerning the characteristics of "noncredit" or extension students in CC/TI, further efforts should be made toward a more detailed description of those students.

Fifth, when curriculum students are the focus of research, attempts should be made to differentiate those students by educational program area such that basic similarities and differences between college-transfer, technical, and vocational student characteristics can be observed.

Sixth, given the current debate regarding relationships between the socioeconomic status of students and the educational program area in which they enroll, research should be conducted to indicate whether or not CC/TI are "tracking" their students on the basis of socioeconomic status.

Hypotheses

Based on the description of the research problem area, the 13 research questions posed, an extensive survey of the related literature, and the theoretical framework, four research hypotheses were identified to facilitate the attainment of the study objectives.

Hypothesis I: There is a positive relationship between the socioeconomic status characteristics of students (primary income, head-of-household's occupation, parents' income, student's income, father's education, mother's education, and student's education) and educational program area of selection.

Hypothesis II: There is a positive relationship between measures of student academic ability (high school average and high school rank) and educational program area of selection.

Hypothesis III: There is a positive relationship between measures of academic ability (high school average and high school rank) and educational program area of selection when socioeconomic characteristics of students (primary income, head-of-household's occupation, parents' income, student's income, father's education, mother's education, and student's education) are controlled.

Hypothesis IV: There is a positive relationship between socioeconomic characteristics of students and measure of academic ability (primary income, head-of-household's occupation, parents' income, student's income, father's education, mother's education, high school average, and high school rank) and educational program area of selection when demographic variables (age and sex) are controlled.

METHODOLOGY

In this chapter are presented the research design and the population, the sample design and the sample, the instrumentation, and methods used in data collection and analysis.

Research Design

This investigation utilized a static-group comparison survey research design to meet the four study objectives, answer the 13 research questions, and test the previously stated hypotheses. Generally defined by a variety of writers (Hillway, 1964; Kerlinger, 1964; Fox, 1969; Denzin, 1970) as a research design that studies relatively large populations by selecting samples at one point in time to discover the comparative incidence, distribution, and interrelations of variables regarding a current situation through the use of a self-administered questionnaire, the research design used herein was selected as most appropriate for several reasons.

First, the scope of the research problem required the generation of comparisons and generalizations about a substantial population. Due to the limited time frame for the study, the number of persons involved, and the multiplicity of variables to be treated, the researchers could neither control nor deal efficiently with all these factors by using other available research designs. Second the research questions and hypotheses to be answered or tested required basically descriptive and associational results--not statements of cause-and-effect or predictions that would have required an appropriate experimental research design. Finally, this particular design is widely accepted and was employed by social scientists investigating similar research problems. Helmstadtler (1970, p. 65) gave an indication of its usefulness "whenever a group of objects differs within itself, and one desires to know in what ways and to what extent these objects differ from one another." Hillway (1964, p. 208) emphasized the usefulness of this research design in "providing information for comparison studies and in identifying trends," while Kaplan (1964, p. 164) pointed to its strength in detecting "what changes have occurred, and . . . throw[ing] light on the reasons for their occurrence."

The specific application of this research design in the present study is explained in detail in terms of the sample design, the instrumentation, and the procedures used in data collection and data analysis.

Population

The population for this study consisted of all students enrolled in the 57 CC/TI in the NCCCS during the Spring Quarter of 1974. The Management Information Services Division of the North Carolina Department of Community Colleges projected the total student body enrolled in all educational program areas during the 1974 Spring Quarter to be 181,767.

Sample Design

As in most instances of educational research employing a survey research design, it was not possible to collect data from every student relevant to this study, but only from some fractional part of all the possible respondents. The sample design was a two-stage, stratified, systematic sample developed in cooperation with Dr. C. H. Proctor, Professor of Statistics, North Carolina State University at Raleigh.

As the word "systematic" implies, the selection of sampling units involved a progression through the sampling frame selecting every k^{th} sampling unit, starting with a random selection of the first unit. This design was selected for its property of distributing the sample more uniformly over the entire population, while producing a relatively bias-free and randomly based process of selection (Blalock, 1972). As Cochran and Snedecor (1967, p. 519) noted, "systematic sampling often gives more accurate results than simple random sampling."

Two general problems were associated with securing representativeness in the sample: the definition of the sample universe and the mechanical manipulation of that universe in the sample selection process. The first of these is discussed in terms of the construction of the sampling frame. The second is taken up in the general description of the selection technique.

Construction of the Sampling Frame

The universe from which the sample was drawn was defined as all students enrolled in the NCCCS during the Spring Quarter, 1974. Based on estimates of resources available to conduct the survey, the statistical tests to be employed, and the assumption that institutions were relatively homogeneous while institutional populations were comparatively heterogeneous with regard to critical variables characteristics

(Loether and McTavish, 1974b), it was determined that optimum sample size should consist of 16 institutions in the first stage, with subsamples of 965 students from each of the sample institutions, for an estimated total of 15,440 participants in the second stage.

Having defined the sample universe, the primary sampling units in the first stage (institutions) and the ultimate sampling units in the second stage (classes of students), the first-stage sampling frame (the collection of primary sampling units which may be unambiguously defined and identified) was completed using data on instutional enrollment projections and geographic and population characteristics of counties in which institutions were located (U.S. Bureau of the Census, 1972; Clifford and Davis, 1971). To establish confidence in the unbiased nature of the selection procedure and to increase sample representativeness, stratification dimensions were added by type of institution, geographic region, and population density. The second-stage sampling frame consisted of a list of all classes being taught at each of the institutions selected from the first-stage sample draw, stratified by type of class.

Sample Selection Technique

The sample selection procedures operationalized from the sampling frame design were constructed and field researchers were trained in advance of the sample draw to assure uniformity in the procedures employed. The training handbook used for this purpose appears in Addendum I. Briefly, the procedures were:

1. Spring Quarter, 1973, enrollments by institution were developed for both curriculum (credit) programs and extension (noncredit) programs.

2. Projections for Spring Quarter, 1974, enrollments were made on the basis of predicting a 15% increase over the Spring Quarter, 1973, enrollment in curriculum programs and no growth in extension programs.

3. All 57 institutions, along with their projected enrollments, were listed in alphabetical order, stratified by type of institution (CC or TI), state geographical region (mountains/piedment/coastal plains), and population density of the county in which they are located (rural/urban), with enrollments listed cumulatively.

4. Students within 16 institutions--7 CC and 9 TI--were selected through circular-systematic sampling with self-correcting weighting for size of institution, using the sampling ratio,

$$N/R = TSG,$$

where N = target population size (181,767); R = institutional sampling size (16); and TSG = total sampling gap (11,360). After randomly selecting a six-digit number from a table of random numbers, that number was matched with its corresponding counterpart on the list of cumulative enrollments. By adding the "total sampling gap" to that of each subsequent cumulative enrollment figure, students within 16 institutions were selected.

5. For each of the 16 selected institutions, a list was secured of all classes in process during the Spring Quarter, 1974, along with a report of the average headcount in the classes.

6. Knowing the approximate number of students to be sampled from each institution (965), the number of classes to be included in the sample was determined on the basis of the formula,

$$M_i s_i / S_i = m_i,$$

where M_i = total number of classes conducted by a given institution; s_i = desired number of students at a given institution (965); S_i = total duplicated student headcount at a given institution; and m_i = number of classes included in the sample at a given institution.

7. A list of all classes being conducted at the institution was obtained and reordered so that all curriculum classes were listed together, followed by all noncredit extension classes listed together.

8. Students within each institution were selected through circular-systematic sampling using the sampling ratio,

$$S_i/m_i = ISG_i,$$

where ISG = institutional sampling gap at a given institution. Using a table of random numbers, a five-digit number (if $S>9,999$) or a four-digit number (if $S<9,999$), the class within which that number fell was located on the listing of cumulative average class size. By a process of adding the ISG to numbers drawn from the table of random numbers and locating the class within which the new number fell, the desired number of students was selected.

Sample

Based on the sample design, the following 16 institutions were identified for the research project (Figure 1):

1. Community colleges (seven): Caldwell Community College and Technical Institute, Central Piedmont Community College, Coastal Carolina Community College, Gaston College, Rockingham Community College, Southeastern Community College, and Wilkes Community College

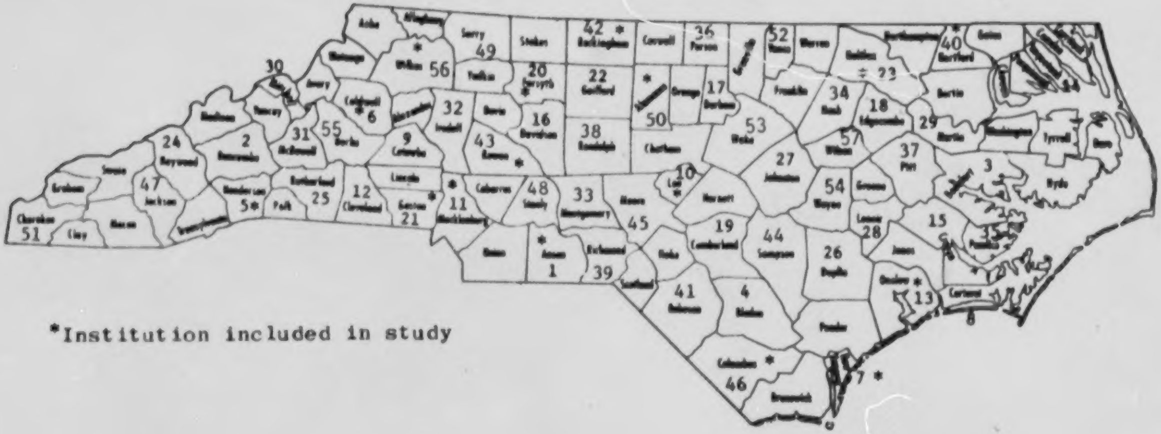
2. Technical institutes (nine): Anson Technical Institute, Blue Ridge Technical Institute, Cape Fear Technical Institute, Central Carolina Technical Institute, Forsyth Technical Institute, Halifax County Technical Institute, Roanoke-Chowan Technical Institute, Rowan Technical Institute, and Technical Institute of Alamance.

A total of 15,440 students were expected to be included in the sample. However, 13,723 research instruments were actually administered, and a total of 10,074 usable questionnaires were actually returned. Responses from the 16 institutes ranged from 26 to 89%. Overall, 73% of the questionnaires were returned in usable form. The handbook used for purposes of calculating the percentage response and the results of those calculations appear in Addendum II.

Instrumentation

A 45-item research questionnaire (Addendum III) was developed for collecting the necessary data. The construction of questions and response categories pertaining to demographic, academic, and socioeconomic characteristics was accomplished through reference to test items developed by Bolick (1969), the U.S. Bureau of the Census (1972b), the American Council on Education (1972), and as listed in Bonjean et al. (1967).

The research instrument was pretested through administering the draft questionnaire (Addendum IV) and a student evaluation form (Addendum V) to a purposive sample of 162 students in 14 classes at two institutions not selected in the sample draw for inclusion in the final study (Vance-Granville Technical Institute and Wayne Community College).



*Institution included in study

*1. Anson Technical Institute
2. Asheville-Buncombe Technical Institute
3. Beaufort County Technical Institute
4. Bladen Technical Institute
*5. Blue Ridge Technical Institute
*6. Caldwell Community College and Technical Institute
*7. Cape Fear Technical Institute
8. Carteret Technical Institute
9. Catawba Valley Technical Institute
*10. Central Carolina Technical Institute
*11. Central Piedmont Community College
12. Cleveland County Technical Institute
*13. Coastal Carolina Community College
14. College of the Albemarle
15. Craven Community College
16. Davidson County Community College
17. Durham Technical Institute
18. Edgecombe Technical Institute
19. Fayetteville Technical Institute
*20. Forsyth Technical Institute
*21. Gaston College
22. Guilford Technical Institute
*23. Halifax County Technical Institute
24. Haywood Technical Institute
25. Isothermal Community College
26. James Sprunt Institute
27. Johnston Technical Institute
28. Lenoir Community College
29. Martin Technical Institute
30. Mayland Technical Institute
31. McDowell Technical Institute
32. Mitchell Community College
33. Montgomery Technical Institute
34. Nash Technical Institute
35. Pamlico Technical Institute
36. Piedmont Technical Institute
37. Pitt Technical Institute
38. Randolph Technical Institute
39. Richmond Technical Institute
*40. Roanoke-Chowan Technical Institute
41. Robeson Technical Institute
*42. Rockingham Community College
*43. Rowan Technical Institute
44. Sampson Technical Institute
45. Sandhills Community College
*46. Southeastern Community College
47. Southwestern Technical Institute
48. Stanly Technical Institute
49. Surry Community College
*50. Technical Institute of Alamance
51. Tri-County Technical Institute
52. Vance-Granville Technical Institute
53. Wake Technical Institute
54. Wayne Community College
55. Western Piedmont Community College
*56. Wilkes Community College
57. Wilson County Technical Institute

Figure 1. Location of community colleges/technical institutes included in the study

The major objectives of this stage of the pretest were to provide a basis from which to determine the amount of time required for students to complete the questionnaires in class; to evaluate the clarity of test questions and directions; to evaluate the exhaustiveness of the range of possible responses available to students, or which would yield low response rates; and to determine the reliability of questionnaire items. (See Addendum VI for the pretest handbook.)

Major findings of the pretest revealed that 80% of the students tested completed the questionnaire in 40 minutes or less. With regard to the clarity of directions, 7% failed to follow the specified procedure for responding by placing the number of the response in the box provided; 21% did not respond exactly as desired to the question pertaining to reasons for continuing their education; and 23% failed to follow directions precisely in responding to the question on institutional characteristics. Based on these findings and factors related to reliability discussed in a later paragraph, the directions regarding the rank-ordering of student reasons and institutional characteristics were modified so that only the five most important categories would be ranked, with no modification of the categories themselves.

While several questionnaire items were found to be incomplete in terms of the range of available responses, no major changes were indicated. The reader is invited to examine the exact modifications made by comparing the pretest instrument with the final questionnaire (Addenda IV and III, respectively).

During the pretest, several questions were found to be of such a personal nature to some students that they refused to respond to those items. Included in that group were questions pertaining to Social Security number, race, parents' income, student's income, and head-of-household's occupation. Even though the questionnaire clearly stated that confidentiality of individual responses would be strictly maintained, many students would not respond to personal questions because they felt that they could be identified through their Social Security number; therefore, it was decided to delete the item pertaining to Social Security information. This sacrifice of a previously planned method of measuring reliability during the course of actual data collection was made to increase the number of responses to other questions.

Plans had been made for measuring the reliability of questionnaire items during the pretesting of the instrument and also during the final data collection process by comparing responses of students who answered the questionnaire more than once. However, since the results of the pretest recommended the deletion of Social Security numbers, this method of ascertaining reliability was abandoned.

The technique for estimating reliability was a mixture of what are termed "test-retest reliability" and "alternate-form reliability" (Fox, 1969, pp. 353-356). One or two days following the original administration of the pretest questionnaire, 43 students from that group were "re-tested" using the identical questionnaire under one-to-one interview conditions. This made possible not only a determination of the stability of responses, but also further evaluation of individual test items where discrepancies occurred.

Since the questionnaire was not constructed as an overall scale or measure of any single characteristic, an item-by-item reliability check was conducted rather than a general measure of the instrument as a whole.

The basic approach to estimating item-by-item reliability involved the calculation of percentage agreement between the two administrations of the pretest questionnaire, using the following formula (Fox, 1969, p. 366):

$$\text{Percentage agreement} = \frac{\text{Number of units of data with identical agreement}}{\text{Total number of units of data in reliability sample}}$$

If a particular questionnaire item had less than 90% agreement, that item was considered to have questionable reliability. The following questions did not meet the 90% agreement criterion:

Question	Variable	Percentage agreement
N	Student classification	81
P	Program area	81
HH	Parents' income	86
RR	Student reasons	63

Upon closer inspection of these four questions of doubtful reliability, the source of error with question P, "program area," was found to be the result of noncredit extension students who thought they were "special credit students." When this error was accounted for, agreement was 95%. Thus, it was concluded that the only category of doubtful reliability was "special credit student," not the entire question. In addition, by placing the entire question on one page of the final questionnaire instead of halved on two pages, as it appeared on the pretest questionnaire, the question's reliability probably was increased even further.

Question RR, "student reasons," had its source of error in the requirement that all 11 items be ranked during the pretest. When only the top 5 of the 11 ranked reasons were considered for question RR, the agreement increased to 96%. It was concluded that by requiring students to rank only the top five reasons as to why they chose to continue their education, the reliability of the test question met the criterion of acceptability.

On the basis of the foregoing considerations, the items of questionable reliability on the final questionnaire were question N--"student classification," question HH--"parents' income," and question P--"special credit student."

The procedures employed for producing an estimate of the validity of the instrument included attempts to establish face validity, content validity, and a variation of construct validity.

Face validity, the claim for validity based on an examination of the nature of the instrument, was established through joint meetings of research personnel of the Department of Adult and Community College Education at North Carolina State University with members of the Occupational Research Unit of the North Carolina Department of Community Colleges.

Content validity of the instrument was argued on the basis that test questions and their respective response categories on primary variables were derived from the theoretical framework and review of literature guiding this study. In addition, the pretest interviews assisted in the determination of content validity through question-by-question analysis with respondents.

Construct validity was approached on several variables by comparing a sample of 64 student responses to the questionnaire with student records on file at the institution. The procedure involved asking students in the first three classes drawn in the sample at each institution to print their name at the top of their questionnaire. As these questionnaires were returned, a systematic sample was taken and compared with the respondents' records.

Responses that were compared with institutional records included the number of courses for which the student was currently registered; educational program area; and student's education, high school curriculum, high school grade average, and high school rank. Of these, high school rank was the only test item that had less than 90% agreement, and thus was believed to be of doubtful validity. Since institutional student records were kept at most CC/TI only for curriculum students, these validity estimates are not applicable when referring to noncredit extension students.

Data Collection

Data were collected during the Spring Quarter of 1974. Each participating institution's president designated a staff member to serve as the project coordinator. The researchers then visited each of the 16 institutions and drew the sample with the aid of the project coordinator. After the sample of classes had been drawn, the project coordinators were asked to distribute all questionnaires to the class instructors. The instructors actually administered the research instruments to their class and returned all instruments to the project coordinator. All questionnaires were delivered personally to and picked up from the project coordinators by members of the research team (see Addendum I).

Data Analysis

Employing procedures previously designed and tested (see Addendum VII), all questionnaire were edited and coded upon receipt by the researchers. The data then were transferred by keypunch to cards and placed on discs for computerized data analysis.

Since the ultimate sampling units were classes, the possibility existed that the same student responded to the questionnaire more than once, depending upon the number of classes in which he was enrolled. To avoid distortion of the data by such multiple responses, responses were weighted according to the probability of a given student being selected in the sample, based upon the number of courses in which enrolled. The weighting procedure is described in Addendum VIII. Weighted percentages generated from the procedure usually fell within 1% of the actual enrollment statistics of the Spring Quarter, 1974 (see Addendum IX).

Based on the assumption that student age characteristics would be quite heterogeneous, major methodological modifications were made with regard to determining student socioeconomic characteristics. Whereas previous research on CC/TI students assumed that valid measures of student socioeconomic status are dependent upon the income and occupational characteristics of students' parents, this research did not.

It seemed unrealistic to expect that students who were married, employed full-time, or over 25 years of age would be dependent upon their parents' socioeconomic status. Analysis of occupational status therefore depended upon who the student identified as the head of his household. Similarly, with regard to income, either parents' or student's income was used as a socioeconomic measure, depending upon whether the student indicated that his parents provided over one-half of his financial support. A new variable, identified as "primary income," was created for data analysis purposes, and was drawn from either parents' income or student's income, depending upon the indicated major source of support.

The first actual data analysis task was to examine the distribution of each variable under investigation and generate one-way frequency and percentage distributions (Addendum X). Next, cross tabulations of those variables were constructed and analyzed by educational program area, sex, race, age, socioeconomic characteristics, and measures of academic ability. Appropriately labeled tables or "profiles" then were constructed by educational program area to show the values of the variables, the weighted frequency with which each value occurred, and the relative frequency in weighted percentages.

Having thus gained a descriptive understanding of student characteristics in terms of the aforementioned variables, a variety of statistical tests were performed to ascertain significant differences, strength of relationships, and the significance of relationships.

In the one-sample case involving more than two categories and a comparison between sample data and some specified theoretical distribution (in this case, theoretical distributions are those reported by Bolick and the 1970 Census), the chi-square goodness-of-fit test was employed to test for significant difference between the proportion of observed responses and those expected under the null hypothesis, using the formula:

$$\chi^2 = \sum_{i=1}^{k} \frac{(O_i - E_i)^2}{E_i},$$

with df = k-1 as described by Siegel (1956, pp. 42-47). Under the same circumstances but with only two discrete categories, the two-sample test for proportions was employed using the formula:

$$S_{p_1-p_2} = \sqrt{pq[(1/N_1) \pm (1/N_2)]} ,$$

to ascertain the standard error, and the formula:

$$Z = (p_1-p_2)/(S_{p_1-p_2}),$$

to compute a standard score as described by Loether and McTavish (1974a, pp. 189-192).

In the general case of the two-variable contingency table involving comparisons between two or more samples, the chi-square test for independent samples was employed to determine if the observed differences between samples were due to chance variations that are to be expected among samples from the same population. As explained by Blalock (1972, pp. 281-283) and Siegel (1956, pp. 174-179), hypotheses were tested by use of the formula:

$$\chi^2 = \sum_{i=1}^{k} \sum_{j=1}^{k} \frac{(O_{ij}-E_{ij})^2}{E_{ij}},$$

with df = (k-1)(r-1).

While testing for significant differences was thought to be sufficient when comparisons were made between data from this study and those reported by Bolick or by 1970 Census data, tests of association and measures of the strength of relationship were indicated where hypothesis testing was involved. Because many of the variables studied were measured at an ordinal level at best, it was decided to choose an appropriate nonparametric test for analysis initially, since the assumptions underlying parametric procedures would necessarily be violated.

The nonparametric measure of strength of the relationship between two ordinal scale variables thought to be most appropriate to this study was Gamma (G), since it is most effective with grouped observations, has a correlation coefficient range from -1 to +1, and yields a proportional reduction in error interpretation of the relationship under study (Costner, 1965; Blalock, 1972, pp. 243-244; Loether and McTavish, 1974a, pp. 268-269), using the equation (Blalock, 1972, p. 418):

$$G = (N_S-N_D)/(N_S+N_D).$$

The subsequent test for association to provide a measure of confidence that each of the relationships yielded by G did not occur by chance was made by converting G to a standard score as suggested by Loether and McTavish (1974a, p. 220):

$$Z = (G-r)\sqrt{(N_S+N_D)/N(1-G^2)}.$$

However, since the conceptual problem and hypotheses involved simultaneous testing of a more complex series of relationships between a multitude of variables, Gamma was extremely limited in its application. Only parametric statistical techniques have the capacity for multivariate analysis at the level of complexity required, but due to the underlying assumptions of these techniques, further tests for multiple relationships became problematic.

The rationale upon which the decision of whether or not to proceed with the test for multiple associations and strengths of relationships was based on two factors. First was the review of literature and discussion presented by Gardner (1975, p. 55) that "some of the arguments underlying the assertion that parametric procedures require interval strength statistics appear to be of doubtful validity." Second was the decision to repeat the tests for the strength of relationships between two variables using Pearson product-moment correlation (r), employing the formula (Blalock, 1972, p. 178):

$$r = \Sigma_{xy}\sqrt{(\Sigma x^2)(\Sigma y^2)}.$$

It was assumed that, if comparisons between G coefficients and r coefficients were similar in terms of directionality and relative strengths between relationships, then even though the underlying assumptions required for parametric tests would be violated, the interpretations made from those tests would not be substantially distorted.

It was then decided that if comparisons between G coefficients and r coefficients were similar, the most appropriate statistical technique to complete the analysis would be multiple regression, using the formula described by Cochran and Snedecor (1967, p. 141):

$$Y = \alpha + \beta_1 x_1 + \beta_2 x_2 + \cdots + \beta_k x_k.$$

Multiple regression was chosen as most appropriate, not for its prediction equation, *per se*, but for its capacity to detect intercorrelational effects through analysis of variance, to produce Standard B-values permitting an interpretation of the relative contribution of each independent variable to the overall multivariate relationship, and to generate coefficients of multiple determination (R^2).

RESULTS

This chapter consists of three major parts. Part I presents the results of the analyses pertaining to the 13 research questions posed for the study. Part II presents the results from testing the research hypotheses. The final part summarizes the results obtained in parts I and II, with the answers to each of the 13 research questions synthesized to represent the "typical" student to be described by the research question.

Part I: Descriptive Profile of Students Enrolled in the North Carolina Community College System

Certain research questions were formulated, the answers to which constituted the guidelines in formulating a descriptive profile of students enrolled in the NCCCS in the Spring Quarter of 1974, and a similar socioeconomic and demographic profile of North Carolina adults 18 years of age or older to serve as a comparison base. In the sections that follow, each research question is stated and answered.

Research Question 1

> Who are the students being served by the North Carolina Community College System in terms of their demographic, socioeconomic, academic, and attendance characteristics?

Total Student Body

Tables 1 through 4 present data on demographic, socioeconomic, academic, and attendance characteristics for the total CC/TI student population, analyzed by curriculum and extension student categories to facilitate comparisons between the two major types of students.

Demographic Characteristics

An almost equal distribution of males and females were attending CC/TI (Table 1). Three-fourths of the students were white and one-fourth were nonwhite.

A clear majority of the student population were older than the traditional "college age," i.e., over 25 years of age. Not uncommonly associated with enrolling older groups of students was that nearly one-fourth of all students were military veterans. However, when age is considered in terms of the complete human life span, relatively few were "older" adults; less than 6% were 60 or older.

Table 1. Weighted percentage distribution of curriculum and extension students enrolled in North Carolina community colleges/technical institutes, 1974, by sex, race, age, marital status, military veteran, North Carolina resident status, location of institution, and place of residence

Variable	Students[a]		
	Curriculum	Extension	Total
Sex:			
Male	60.8	31.4	54.6
Female	39.2	68.6	45.4
Total	100.0	100.0	100.0
	(6922)	(2890)	(9812)
Race:			
Nonwhite	17.8	32.3	25.4
White	82.2	67.7	74.6
Total	100.0	100.0	100.0
	(6920)	(2885)	(9805)
Age, yr:			
19 or less	22.5	8.3	15.1
20-25	35.0	20.4	27.3
26-29	13.8	11.0	12.3
30-59	28.3	50.2	39.8
60 or more	0.4	10.2	5.6
Total	100.0	100.1	100.1
	(6931)	(2886)	(9817)
Marital status:			
Single	43.8	18.8	30.7
Married	51.0	67.8	59.9
Widowed	0.8	7.9	4.6
Separated	2.1	2.8	2.5
Divorced	2.2	2.6	2.4
Total	99.9	99.9	100.1
	(6934)	(2890)	(9824)
Military veteran:			
Yes	35.2	12.7	23.5
No	64.8	87.3	76.5
Total	100.0	100.0	100.0
	(6920)	(2811)	(9731)

Table 1 (continued)

Variable	Students[a]		
	Curriculum	Extension	Total
North Carolina resident:			
Yes	92.6	90.4	91.5
No	7.4	9.6	8.5
Total	100.0	100.0	100.0
	(6921)	(2864)	(9785)
Institution in home county:			
Yes	71.7	77.4	74.6
No	28.3	22.6	25.4
Total	100.0	100.0	100.0
	(6410)	(2563)	(8973)
Residence while enrolled:			
Live with parents	34.2	9.8	21.5
Live with spouse and/or children	49.8	68.8	59.7
Live with other relative	2.5	3.6	3.1
Live with another family	1.3	0.9	1.1
Live alone	5.8	8.5	7.2
Live with other students	3.7	1.8	2.7
Other	2.7	6.6	4.7
Total	100.0	100.0	100.0
	(6759)	(2765)	(9524)

[a] Numbers in parentheses in this and subsequent tables represent the total number of persons responding in the respective category.

Most of the students were married, roughly one-third were single, and over 10% were either widowed, separated, or divorced. It was quite logical to find then that over 80% lived at home with either their spouse and/or children or with their parents. However, a noticeable percentage of students (19%) had residences other than these two most typical modes, either living with other relatives, another family, alone, with other students, or having some other residential accommodation, such as being institutionalized in a nursing home or correctional facility.

Ninety-two percent of all students were North Carolina residents. Of these, about three-fourths lived in the county in which the institution they were attending is located.

The remainder either commuted from a nearby county or had secured temporary living accommodations locally.

Socioeconomic Characteristics

Over one-half of the students reported annual incomes of less than $7,500; more than one-fourth reported less than $3,000 (Table 2). One-fifth of the students reported annual incomes between $10,000 and $14,999, while some 13% had incomes of at least $15,000.

With regard to parents' annual income, one-half of the students' parents had annual incomes of less than $10,000; almost 40%, less than $7,500; one-fifth, between $10,000 and $14,999, and 18% of the parents had incomes of at least $15,000. Some 12% of the students reported that their parents were no longer living.

When the occupations of the heads of student households were analyzed, over one-third were in "white-collar" occupations; roughly another third were in "blue-collar" occupations; just over 15% were either nonfarm laborers, service workers, or unskilled workers; and about 6% were farm owners, managers, foremen, or laborers. Another 5% reported "other" occupations, such as housewife or full-time student.

Data on the level of educational achievement indicated that one-fifth of the students were less than high school graduates, while 45% had earned a high school diploma or its equivalent. Nearly one-fourth of all students enrolled had some postsecondary education, and 9% were college graduates, some with advanced graduate work.

On the whole, mothers of CC/TI students had a higher level of educational achievement than did the fathers. Only among college graduates or more did fathers as a group have a slightly higher education than mothers.

Academic Characteristics

Nearly one-half of the students came to the institutions from a general high school curriculum (Table 3). About 30% were in a college-preparatory curriculum, 12% in a business curriculum, 8% in a vocational curriculum, and 2% in some other type of curriculum in high school.

Two-thirds of the students reported they maintained a "B" or better average while in high school, just over one-fourth had earned a "C" average, and 2% had an average below "C." Nearly 5% had not gone to high school. In terms of

Table 2. Weighted percentage distribution of curriculum and extension students enrolled in North Carolina community colleges/technical institutes, 1974, by student's income, parents' income, household head's occupation, student's education, father's education, and mother's education

Variable	Students		
	Curriculum	Extension	Total
Student's income:			
Less than $1,000	14.6	9.7	12.2
$1,000-1,999	10.0	6.7	8.3
$2,000-2,999	8.1	7.6	7.8
$3,000-5,999	17.4	18.4	17.9
$6,000-7,499	7.8	8.5	8.2
$7,500-9,999	11.6	13.3	12.5
$10,000-14,999	19.0	21.6	20.3
$15,000-19,999	7.7	8.6	8.1
$20,000 or more	3.9	5.6	4.7
Total	100.1	100.0	100.0
	(6486)	(2409)	(8895)
Parents' income:			
Less than $3,000	9.3	19.2	13.8
$3,000-5,999	16.4	16.1	16.2
$6,000-7,499	9.8	9.2	9.5
$7,500-9,999	12.3	8.8	10.7
$10,000-14,999	24.8	14.3	20.0
$15,000-19,999	10.2	5.4	8.0
$20,000 or more	11.8	7.6	9.9
Parents no longer living	5.4	19.4	11.8
Total	100.0	100.0	100.0
	(5932)	(1908)	(7840)
Household head's occupation:			
Professional, technical, and kindred workers	13.4	13.7	13.6
Business owners, managers, administrators, and officials	13.3	12.8	13.1
Sales, clerical, and kindred workers	12.2	10.2	11.2
Craftsmen, foremen, and kindred workers	20.8	17.0	18.9
Operatives	15.8	17.5	16.6

Table 2 (continued)

Variable	Students		
	Curriculum	Extension	Total
Laborers, except farm	5.1	5.9	5.5
Service workers	8.6	9.0	8.8
Unskilled workers, except farm	0.9	1.9	1.4
Farm owners and managers	4.4	3.8	4.1
Farm foremen	0.4	0.3	0.4
Farm laborers	0.8	3.1	1.9
Other	4.4	4.8	4.6
Total	100.1	100.0	100.1
	(6494)	(2498)	(8992)
Student's education:			
Grammar school or less	1.3	14.4	8.1
Some high school	4.1	20.6	12.7
High school graduate	45.4	35.0	40.0
GED diploma	7.7	3.2	5.3
Some postsecondary education	34.8	15.2	24.6
College graduate or more	6.7	11.6	9.3
Total	100.0	100.0	100.0
	(6879)	(2819)	(9698)
Father's education:			
Grammar school or less	38.2	55.2	46.8
Some high school	19.2	15.2	17.2
High school graduate	23.8	17.7	20.7
GED diploma	1.2	0.6	0.9
Some postsecondary education	9.4	5.6	7.5
College graduate or more	8.3	5.8	7.0
Total	100.1	100.1	100.1
	(6756)	(2571)	(9327)
Mother's education:			
Grammar school	24.5	44.6	34.6
Some high school	22.4	19.6	21.0
High school graduate	34.1	22.7	28.4
GED diploma	0.9	0.4	0.6
Some postsecondary education	10.4	6.8	8.6
College graduate or more	7.7	6.0	6.8
Total	100.0	100.1	100.0
	(6796)	(2577)	(9373)

Table 3. Weighted percentage distribution of curriculum and extension students enrolled in North Carolina community colleges/technical institutes, 1974, by high school rank, high school average, and four-year college or university attendance

Variable	Students		
	Curriculum	Extension	Total
High school curriculum:			
Business	11.8	13.0	12.3
College preparatory	34.4	24.4	29.6
General	43.5	52.9	48.0
Vocational	8.8	7.0	7.9
Other	1.6	2.7	2.1
Total	100.1	100.0	99.9
	(6681)	(2241)	(8922)
High school rank:			
Upper one-third	32.5	29.1	30.8
Middle one-third	48.5	38.7	43.6
Lower one-third	8.5	5.5	7.0
Did not graduate from high school	10.5	26.7	18.6
Total	100.0	100.0	100.0
	(6710)	(2458)	(9168)
High school average:			
A (90-100)	14.2	15.5	14.9
B (80-89)	52.6	50.3	51.4
C (70-79)	30.2	24.1	27.1
Below C (less than 70)	1.5	2.2	1.8
Did not go to high school	1.5	8.0	4.8
Total	100.0	100.1	100.0
	(6822)	(2610)	(9432)
Full-time student at four-year college or university:			
Yes	17.7	17.3	17.5
No	82.3	82.7	82.5
Total	100.0	100.0	100.0
	(6926)	(2870)	(9796)

high school rank, the largest group (44%) reported they were graduated in the middle third of their class, over 30% indicated they were in the top third, and 7% were in the lowest third. Almost 19% did not graduate from high school.

Also in Table 3, it will be noted that about 18% of the students indicated they had at one time or another attended a four-year college/university prior to their enrollment at a CC/TI.

Attendance Characteristics

Of the total student enrollment in the NCCCS, roughly half were registered in one or another noncredit extension course or program, while the other half were taking courses for college credit in one of the curriculum programs (Table 4). The largest percentage were enrolled in occupational extension classes, followed closely by those in technical programs.

In curriculum program areas, slightly less than half of the students were considered to be in technical programs, while nearly one-fifth were enrolled in a vocational curriculum. Slightly more than 15% were college-transfer students, with about 18% enrolled as either general education or special credit students.

Of those taking noncredit extension courses, nearly half were in occupational extension, 18% were in academic extension, and 16% and 14%, respectively, in recreation extension and fundamental education. Roughly another 3% were enrolled in special extension programs closely associated with occupational extension. Over half of all extension students reported they were enrolled for the first time.

The students were divided almost equally between those who attended during the day and the evening. Most students were enrolled in a single course, although almost 40% were enrolled in two to five courses. Consequently, a majority were in class 10 or fewer hours per week, and almost 15% were in class more than 25 hours per week.

Comparison Between Curriculum and Extension Students

In reviewing the data in Tables 1-4, it was recognized that a great deal of variation existed between curriculum and extension students with regard to certain demographic, socioeconomic, academic, and attendance characteristics.

Among the demographic characteristics (Table 1), over 60% of curriculum students were males, while among extension students nearly 70% were females. With regard to racial characteristics, almost twice as many nonwhites were in extension programs as were in curriculum programs.

Table 4. Weighted percentage distribution of curriculum and extension students enrolled in North Carolina community colleges/technical institutes, 1974, by program area, enrollment in fundamental education, student classification, when they attend class, number of courses taking this quarter, hours in class per week, and extension student enrollment in first class

Variable	Students		
	Curriculum	Extension	Total
Program area--curriculum:			
College-Transfer	15.2	--	7.2
General Education	7.5	--	3.6
Special Credit	10.4	--	4.9
Technical	47.0	--	22.3
Vocational	19.9	--	9.4
Total	100.0	--	--
	(6937)	--	--
Program area--extension:			
Academic Extension	--	18.3	9.6
Apprenticeship	--	0.8	0.4
Fundamental Education	--	13.8	7.2
MDC Job Training	--	1.0	0.5
Manpower Development (MDTA)	--	0.8	0.4
New and Expanding Industry	--	0.0	0.0
Occupational Extension	--	49.3	26.0
Recreation Extension	--	16.0	8.4
Total	--	100.0	--
		(2900)	--
Program area--total:	--	--	99.9[a]
			(9837)
Fundamental education:			
Adult Basic Education (ABE)	--	46.2	--
High School Diploma Program	--	23.4	--
High School Equivalency Certificate Program (GED)	--	8.9	--
Learning Laboratory	--	21.6	--
Total	--	100.1	--
		(494)	
Student classification:			
Noncredit extension student	5.5	96.7	55.0
New freshman	24.3	2.2	12.3
Returning freshman	39.1	0.7	18.2
Sophomore	31.2	0.4	14.5
Total	100.1	100.0	100.0
	(6119)	(2640)	(8759)

Table 4 (continued)

Variable	Students		
	Curriculum	Extension	Total
Attend classes:			
Day	65.5	29.3	46.5
Evening	34.5	70.7	53.5
Total	100.0	100.0	100.0
	(6924)	(2885)	(9809)
Number of courses this quarter:			
One	24.0	88.8	57.8
Two	13.5	8.4	10.8
Three	19.2	1.4	9.9
Four	22.7	0.9	11.3
Five	14.5	0.3	7.1
Six	4.6	0.1	2.3
Seven	1.1	0.0	0.5
Eight	0.3	0.0	0.2
Over eight	0.1	0.0	0.0
Total	100.0	99.9	99.9
	(6929)	(2842)	(9771)
Hours in class, per week:			
1-5	15.8	54.9	36.4
6-10	14.6	28.6	22.0
11-15	21.6	2.5	11.5
16-20	17.2	3.7	10.1
21-25	10.4	0.8	5.5
26-30	12.6	1.5	6.7
Over 30	7.6	8.0	7.9
Total	100.0	100.0	100.1
	(6937)	(2900)	(9837)
Extension student enrolled in first course:			
Yes	--	54.5	--
No	--	45.5	--
Total	--	100.0	--
	--	(2533)	--

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[a] When all students are considered (9837), 47.4% were curriculum (credit) students compared to 52.5% who were extension (noncredit) students. Because of the small N for General Education (N=475) and for Special Credit students (N=284), these data were not included in subsequent analyses of curriculum students. The weighted distribution for responses of General Education and Special Credit students appears in Addendum IX.

Age distribution of curriculum and extension students also differed markedly, with the latter representing older students than the former. Most curriculum students were under 26 years of age, while more than two-thirds of the extension students were at least 26 years old. Consequently, while more than half of the curriculum students were married, they were still more likely to be single than were extension students, over two-thirds of whom were married. Similarly, a greater proportion of extension than curriculum students lived with their spouse and/or children; one-third of the latter lived with their parents. Curriculum students were nearly three times more likely to be veterans than were extension students.

The two groups of students were very similar in that they were both overwhelmingly North Carolina residents, and of these, roughly three-fourths of both groups resided in the county in which the institution they attended is located.

Comparing curriculum and extension students by socioeconomic characteristics (Table 2) showed a greater percentage of curriculum than extension students were in lower-income groups (25% vs 16%, respectively, with annual incomes of less than $2,000), but in other income categories the two groups were nearly the same. About one-third of each group had incomes between $3,000 and $7,499; roughly another third of each group had incomes between $7,500 and $14,999; and 10-14% of each group had incomes of at least $15,000.

As both groups were similar in many respects with regard to student income, even more so were they nearly alike in relation to major occupational categories. Over one-third of the heads-of-household of both curriculum and extension students were white-collar workers and over one-third were in blue-collar occupations. Both types of students had nearly equal percentages in nonfarm laborer, service worker, unskilled worker, and farm occupations.

On the other hand, parents of curriculum students tended to have considerably higher annual incomes than extension students' parents, while a considerably larger percentage of extension students' parents had annual incomes of less than $3,000.

The two groups of students also were dissimilar regarding educational variables. Although a majority in both programs had high school educations or more, those in extension areas represented a broader range of educational levels than among curriculum students. Thirty-five percent in extension programs were less than high school graduates as compared to about 5% of curriculum program students. Extension students also represented a larger percentage of those with college or graduate educations.

Parents of curriculum students tended to have more education than parents of extension program students. Over 40% of the fathers of curriculum students had high school educations or more compared to almost 30% of fathers who had sons/daughters in extension programs. Similar results held true for mothers' education. Mothers of students in both major program areas tended to have more education than their fathers.

Comparisons between curriculum and extension students regarding high school curriculum demonstrated relatively slight differences (Table 4). The largest percentage of both curriculum and extension students had been in the general high school curriculum, with the college-preparatory curriculum being the second largest for both groups.

Contrasts between curriculum and extension students on high school rank revealed that the largest difference between the two was the percentage of students who did not graduate from high school (10% for curriculum students vs 27% for extension students). When only high school graduates were considered, 36% of curriculum students and 40% of extension students graduated in the top one-third of their high school class; 54% and 43%, respectively, graduated in the middle third; and 10% and 7%, respectively, graduated in the lowest third. Comparisons between the groups of students for high school averages tended to confirm this basic similarity in academic ability, with a majority of both groups being "B" students. About 17% of both groups of students indicated they were former full-time students at a four-year college/university.

Among the greater differences between curriculum and extension students were their attendance characteristics (Table 4). Most curriculum students attended classes during the day, while a majority of extension students attended in the evening. Over 60% of the former were enrolled in three or more courses as compared to 97% of the latter, who tended to enroll in only one or two courses. Similarly, nearly half of all curriculum students spent more than 15 hours per week in class, while 86% of extension students were in class 15 or fewer hours per week, with most in class 5 or less hours per week.

Research Question 2

> Which students are enrolling in what educational program areas (college-transfer, technical, vocational, academic, fundamental education, occupational extension, and recreational extension) in terms of their demographic, socioeconomic, academic, and attendance characteristics?

Curriculum Student Body

Tables 5 through 8 present data on the demographic, socioeconomic, academic, and attendance characteristics of students in the three major CC/TI curriculum program areas--college-transfer, technical, and vocational.[1]

Demographic Characteristics

All three major curriculum programs were composed of a majority of males, although VOC programs tended to have a larger percentage of males than either COL-TR or TECH programs, which tended to be similar to one another with regard to this characteristic (Table 5).

Racial characteristics were unevenly distributed among the three program areas, with 10% of the COL-TR, 17% of the TECH, and almost one-third of the VOC students being non-white.

The COL-TR programs tended to enroll a larger percentage of younger students than either of the occupational programs. Nearly three-fourths of all COL-TR students were under 26 years of age as compared to TECH and VOC students, where only about one-half were in that age group. Slightly less than half of the students in each of the latter two program areas were between 26 and 59 years of age.

As COL-TR students differed considerably from occupational students with regard to age, so too did they differ in their marital status. While only about one-third of COL-TR students were married, over one-half of the TECH and VOC students had husbands or wives. Consequently, COL-TR students were more likely to live with their parents (52%) than were TECH or VOC students, who were more likely to be living with their spouse and/or children.

Students in all three program groups were similar in that over 90% of each group were North Carolina residents. Of those State residents, VOC students were the most likely to reside in a county other than the one in which their institution is located.

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[1] For convenience of reporting, the three major curriculum program areas will hereinafter be abbreviated as follows: COL-TR = college-transfer; TECH = technical; and VOC = vocational. The four major extension programs will likewise be abbreviated as follows: ACAD EXT = academic extension; FUND EDUC = fundamental education; OCCU EXT = occupational extension; and REC EXT = recreation extension.

Table 5. Weighted percentage distribution of college-transfer, technical, and vocational students enrolled in North Carolina community colleges/technical institutes, 1974, by sex, race, age, marital status, military veteran, North Carolina resident status, location of institution, and place of residence

Variable	Students		
	COL-TR	TECH	VOC
Sex:			
Male	60.0	59.6	73.4
Female	40.0	40.4	26.6
Total	100.0	100.0	100.0
	(1290)	(3715)	(1159)
Race:			
Nonwhite	10.0	16.8	28.7
White	90.0	83.2	71.3
Total	100.0	100.0	100.0
	(1285)	(3712)	(1165)
Age, yr:			
19 or less	32.0	24.0	22.2
20-25	42.5	34.6	35.7
26-29	9.8	14.6	12.4
30-59	15.5	26.7	29.6
60 or more	0.2	0.2	0.0
Total	100.0	100.1	99.9
	(1290)	(3720)	(1164)
Marital status:			
Single	61.8	44.2	40.5
Married	33.8	50.7	54.5
Widowed	1.3	0.7	0.7
Separated	1.6	2.2	2.0
Divorced	1.6	2.2	2.4
Total	100.1	100.0	100.1
	(1290)	(3720)	(1166)
Military veteran:			
Yes	23.9	38.1	42.9
No	76.1	61.9	57.1
Total	100.0	100.0	100.0
	(1286)	(3713)	(1164)
North Carolina resident:			
Yes	91.1	94.1	91.2
No	8.9	5.9	8.8
Total	100.0	100.0	100.0
	(1287)	(3716)	(1161)

Table 5 (continued)

Variable	Students COL-TR	 TECH	 VOC
Institution in home county:			
Yes	73.5	72.2	68.0
No	26.5	27.8	32.0
Total	100.0	100.0	100.0
	(1171)	(3452)	(1086)
Residence while enrolled:			
Live with parents	51.6	35.2	30.7
Live with spouse and/or children	33.4	49.7	51.0
Live with other relative	3.2	2.3	3.1
Live with another family	1.3	1.1	1.9
Live alone	5.5	5.6	4.6
Live with other students	3.5	4.7	1.8
Other	1.6	1.3	6.8
Total	100.1	99.9	99.9
	(1268)	(3634)	(1118)

The VOC students had the largest representation of military veterans, with TECH students second and COL-TR last.

Socioeconomic Characteristics

College-transfer students tended to have a lower annual income while enrolled than either TECH or VOC students while enrolled (Table 6). Nearly one-half of the students in COL-TR programs had incomes of less than $3,000 annually as compared to roughly one-third of the TECH and VOC students. The TECH students reported the highest incomes, with nearly 30% having an annual income of at least $10,000, VOC students were next, and COL-TR students last in the upper-income groups.

With regard to level of formal education, COL-TR students had the highest educational attainment of any curriculum program group, with over one-half reporting some post-secondary education. The VOC students were most likely to have less than a high school education when compared to the other two groups. However, VOC and TECH programs were more likely to have college graduates enrolled than was the COL-TR program.

Table 6. Weighted percentage distribution of college-transfer, technical, and vocational students enrolled in North Carolina community colleges/technical institutes, 1974, by student's income, parents' income, household head's occupation, student's education, father's education, and mother's education

Variable	Students		
	COL-TR	TECH	VOC
Student's income:			
Less than $1,000	19.6	15.2	15.2
$1,000-1,999	16.2	10.5	8.1
$2,000-2,999	12.5	8.0	8.9
$3,000-5,999	17.8	16.9	20.6
$6,000-7,499	5.4	8.0	10.1
$7,500-9,999	8.2	11.6	11.7
$10,000-14,999	13.4	19.3	18.2
$15,000-19,999	4.6	7.6	4.6
$20,000 or more	2.4	2.9	2.7
Total	100.1	100.0	100.1
	(1211)	(3508)	(1071)
Parents' income:			
Less than $3,000	5.7	9.5	11.9
$3,000-5,999	12.8	16.2	19.5
$6,000-7,499	8.6	9.8	10.1
$7,500-9,999	12.9	12.4	14.4
$10,000-14,999	26.8	26.1	21.8
$15,000-19,999	14.2	10.6	7.9
$20,000 or more	15.7	10.6	7.7
Parents no longer living:	3.2	4.9	6.6
Total	99.9	100.1	99.9
	(1140)	(3219)	(956)
Household head's occupation:			
Professional, technical, and kindred workers	12.5	11.7	10.2
Business owners, managers, administrators, and officials	18.8	12.2	8.5
Sales, clerical, and kindred workers	13.8	12.7	7.2
Craftsmen, foremen, and kindred workers	20.3	20.1	25.8
Operatives	11.8	15.6	24.5
Laborers, except farm	3.5	5.4	6.8
Service workers	5.6	11.3	7.3
Unskilled workers, except farm	0.5	1.0	0.9

Table 6 (continued)

Variable	Students		
	COL-TR	TECH	VOC
Farm owners and managers	6.1	4.8	2.5
Farm foremen	0.4	0.6	0.2
Farm laborers	0.2	1.0	0.7
Other	6.4	3.6	5.5
Total	99.9	100.0	100.1
	(1225)	(3498)	(1064)
Student's education:			
Grammar school or less	0.3	0.9	2.6
Some high school	0.2	2.0	10.6
High school graduate	37.1	46.6	54.8
GED diploma	3.8	7.4	14.9
Some postsecondary education	57.6	40.3	13.2
College graduate or more	0.9	2.8	3.9
Total	99.9	100.0	100.0
	(1278)	(3690)	(1159)
Father's education:			
Grammar school or less	27.1	38.2	46.5
Some high school	18.8	18.8	21.5
High school graduate	25.2	24.4	21.4
GED diploma	1.4	1.3	1.0
Some postsecondary education	15.2	9.3	5.3
College graduate or more	12.2	7.9	4.3
Total	99.9	99.9	100.0
	(1268)	(3635)	(1120)
Mother's education:			
Grammar school or less	15.2	24.7	31.5
Some high school	18.5	22.8	25.1
High school graduate	39.7	33.9	31.7
GED diploma	0.9	0.6	0.8
Some postsecondary education	15.8	9.5	7.2
College graduate or more	9.9	8.4	3.8
Total	100.0	99.9	100.1
	(1271)	(3660)	(1128)

Parents of COL-TR students also tended to have higher levels of formal education than those of TECH or VOC students, who generally had the lowest levels of educational attainment. While about one-fourth of the fathers of students in any of the three program areas were high school graduates or the equivalent, a higher percentage of COL-TR student fathers (27%) had educations beyond the high school diploma than fathers of TECH students (17%) or fathers of VOC students (10%). More than two-thirds of VOC student fathers were not high school graduates as compared to 57% of the TECH student fathers and 46% of the COL-TR student fathers.

Much the same description held true for student mothers. Over one-half of VOC student mothers had not graduated from high school as compared with less than one-half for TECH student mothers and about one-third for mothers of COL-TR students. A substantially larger proportion of COL-TR student mothers had some postsecondary or more education when compared to TECH and VOC student mothers.

Parents of COL-TR and TECH students were more likely to have annual incomes of at least $15,000, while VOC and TECH student parents were more likely than COL-TR student parents to have yearly incomes of less than $7,500. Students' parents with incomes between $7,500 and $15,000 had nearly equal percentage representations in all three curriculum program areas.

With regard to the head-of-household's occupation, COL-TR student heads-of-household were more likely to be in white-collar occupations as compared with TECH and VOC students. All three program areas tended to have roughly the same proportion of students whose heads-of-household were draftsmen, foremen, or kindred workers.

Heads-of-household of VOC students were most likely to be operatives, nonfarm laborers, service workers, or unskilled workers (40%) as contrasted with TECH (33%) and COL-TR (21%) students. The heads-of-household of approximately the same proportion of students in each program area were in a farm occupation, although COL-TR student heads-of-household were more likely to be farm owners and managers as contrasted to TECH or VOC students.

Academic Characteristics

The results concerning academic characteristics of COL-TR, TECH, and VOC students show that for high school curriculums, over one-half of the COL-TR students had a college-preparatory background; about one-third came to CC/TI from a general high school curriculum (Table 7). High percentages of TECH students were in general and college-preparatory curriculums, but they were more likely than the students in the other two program areas to be from a high school business curriculum. A majority of VOC students had general high school curriculum backgrounds, while another one-fifth of VOC students were in a vocational high school curriculum--the highest percentage for any of the three program areas studied.

On measures of such academic ability as high school rank, COL-TR students were the most likely to have graduated in the top one-third of their class, although the highest percentage of COL-TR students graduated in the middle one-third of their class.

Technical programs tended to enroll a majority of students who graduated in the middle third of their high school class, with about one-third from the top third. Of the VOC students who graduated from high school, nearly one-third were from the middle third of their graduating class, with 20% from the top third.

The COL-TR and TECH program areas attracted students who had fairly similar high school averages, with both programs having a majority of "B" students, approximately 30% each with "C" or below students, and most of the remaining students with "A" averages. The VOC programs differed slightly by having fewer students with "A" and "B" averages and more "C" or below students.

The COL-TR students were most likely to have previously attended a four-year college/university on a full-time basis, although the vast majority of students in all three program areas had never before been full-time university students.

Attendance Characteristics

Most COL-TR, TECH, and VOC students attended classes during the day, with one-third of those in TECH and VOC programs attending classes at night (Table 8).

Over two-thirds of VOC students enrolled in three or fewer courses during a given quarter and were more likely to do so than COL-TR and TECH students. However, VOC students also tended to spend more hours per week in class than the other two groups; i.e., 57% of VOC students were in class more than 20 hours per week as compared to fewer than 3% for COL-TR and 18% for TECH students. Over two-thirds of COL-TR and TECH students were enrolled for 3 to 5 courses, with 69% of COL-TR students in class from 11 to 20 hours per week and 73% of TECH students in class from 11 to 30 hours per week.

Table 7. Weighted percentage distribution of college-transfer, technical, and vocational students enrolled in North Carolina community colleges/technical institutes, 1974, by high school curriculum, high school rank, high school average, and four-year college or university attendance

Variable	Students		
	COL-TR	TECH	VOC
High school curriculum:			
Business	7.6	14.3	6.3
College preparatory	57.7	32.4	18.7
General	31.0	44.0	54.5
Vocational	1.8	7.9	19.1
Other	1.8	1.4	1.4
Total	99.9	100.0	100.0
	(1265)	(3599)	(1101)
High school rank:			
Upper one-third	40.5	32.3	20.5
Middle one-third	45.3	51.3	48.9
Lower one-third	8.5	8.3	9.6
Did not graduate from high school	5.7	8.1	21.1
Total	100.0	100.0	100.1
	(1265)	(3607)	(1111)
High school average:			
A (90-100)	16.5	13.1	9.2
B (80-89)	51.7	55.2	48.8
C (70-79)	29.3	29.5	36.9
Below C (less than 70)	1.6	1.3	2.3
Did not go to high school	1.0	1.0	2.8
Total	100.1	100.1	100.0
	(1279)	(3654)	(1145)
Full-time student at four-year college or university:			
Yes	18.3	14.8	10.9
No	81.7	85.2	89.1
Total	100.0	100.0	100.0
	(1291)	(3716)	(1160)

Table 8. Weighted percentage distribution of college-transfer, technical, and vocational students enrolled in North Carolina community colleges/technical institutes, 1974, by when they attend class, number of courses taking this quarter, and hours in class per week

Variable	Students		
	COL-TR	TECH	VOC
Attend classes:			
Day	83.5	68.6	70.4
Evening	16.5	31.4	29.6
Total	100.0	100.0	100.0
	(1290)	(3714)	(1162)
Number of courses taking this quarter:			
One	9.4	11.8	35.3
Two	10.3	13.0	12.6
Three	17.7	21.8	20.4
Four	29.6	26.5	20.9
Five	22.5	18.7	8.9
Six	8.2	6.1	1.4
Seven	1.7	1.6	0.2
Eight	0.4	0.4	0.1
Over eight	0.1	0.0	0.3
Total	99.9	99.9	100.1
	(1291)	(3717)	(1162)
Hours in class, per week:			
1-5	10.0	8.7	8.8
6-10	12.7	13.3	10.5
11-15	32.1	25.4	9.7
16-20	36.4	19.3	7.7
21-25	6.1	15.4	6.4
26-30	1.6	12.6	31.1
Over 30	1.0	5.2	25.9
Total	99.9	99.9	100.1
	(1291)	(3721)	(1166)

Extension Student Body

The extension student body consisted of students enrolled in the academic extension (ACAD EXT), fundamental education (FUND EDUC), occupational extension (OCCU EXT) and recreation extension (REC EXT) program areas. Tables 9 through 12 present data on the demographic, socioeconomic, academic, and attendance characteristics of the extension student body.

Demographic Characteristics

All extension program areas except FUND EDUC had a pre-, dominant enrollment of females (Table 9). Recreation and OCCU EXT courses were the most heavily populated, with 90% and 70% female students, respectively. Academic extension programs had slightly more females than males, while FUND EDUC students were about equally divided between males and females. In terms of race, again FUND EDUC programs were the exception, with over 60% nonwhite students. Recreation extension students were almost exclusively white, with ACAD and OCCU EXT enrollments about three-fourths and two-thirds white, respectively.

Fundamental education was the only extension program area in which more than one-half of the students were under 30 years of age. The other major program areas attracted a majority of students 30 years of age and older. Academic extension courses had the largest proportion (17%) of students over 59 years of age; less than 10% in the other extension program areas were in that age group.

Most students in all extension programs were married, and consequently lived with their spouse and/or children. However, over one-third of the FUND EDUC students were single and, as a group, were more likely to live with their parents or have "other" living accommodations than students in the other program areas. Academic extension courses had the largest proportion of students who indicated they lived alone.

A range of 85 to 95% of students in REC EXT, FUND EDUC, and OCCU EDUC reported they were North Carolina residents; 22% of those in ACAD EXT indicated they were residents of other states. However, of those who were North Carolina residents, OCCU EXT students were the least certain to live in the county in which the institution they attended is located; over one-fourth of those students resided in other counties.

Table 9. Weighted percentage distribution of academic, fundamental education, occupational, and recreation extension students enrolled in North Carolina community colleges/technical institutes, 1974, by sex, race, age, marital status, military veteran, North Carolina resident status, location of institution, and place of residence

Variable	Students			
	ACAD EXT	FUND EDUC	OCCU EXT	REC EXT
Sex:				
Male	42.1	50.3	29.5	9.6
Female	57.9	49.7	70.5	90.4
Total	100.0	100.0	100.0	100.0
	(507)	(528)	(1407)	(448)
Race:				
Nonwhite	25.6	61.5	35.5	4.1
White	74.4	38.5	64.5	95.9
Total	100.0	100.0	100.0	100.0
	(508)	(527)	(1403)	(447)
Age, yr:				
19 or less	7.8	23.6	5.7	4.4
20-25	24.6	23.7	18.3	18.9
26-29	9.6	9.3	11.3	12.8
30-59	40.6	35.9	56.0	54.7
60 or more	17.4	7.5	8.7	9.2
Total	100.0	100.0	100.0	100.0
	(513)	(527)	(1398)	(448)
Marital status:				
Single	22.4	36.0	16.7	6.9
Married	61.4	49.8	69.6	85.4
Widowed	11.8	6.0	7.9	5.1
Separated	2.8	5.4	2.9	0.3
Divorced	1.6	2.9	3.0	2.3
Total	100.0	100.1	100.1	100.0
	(512)	(527)	(1404)	(447)
Military veteran:				
Yes	15.7	9.9	14.1	7.4
No	84.3	90.1	85.9	92.6
Total	100.0	100.0	100.0	100.0
	(506)	(517)	(1350)	(438)

Table 9 (continued)

Variable	Students			
	ACAD EXT	FUND EDUC	OCCU EXT	REC EXT
North Carolina resident:				
Yes	77.9	92.5	95.5	86.4
No	22.1	7.5	4.5	13.6
Total	100.0	100.0	100.0	100.0
	(507)	(524)	(1391)	(442)
Institution in home county:				
Yes	81.4	79.4	72.8	87.7
No	18.6	20.6	27.2	12.3
Total	100.0	100.0	100.0	100.0
	(393)	(474)	(1317)	(374)
Residence while enrolled:				
Live with parents	5.2	15.7	11.6	4.0
Live with spouse and/or children	60.9	48.4	72.0	85.6
Live with other relative	3.1	3.7	3.8	3.6
Live with another family	0.7	1.2	1.2	0.0
Live alone	10.9	6.5	8.8	6.6
Live with other students	5.2	1.8	1.0	0.0
Other	14.1	22.7	1.6	0.1
Total	100.1	100.0	100.0	99.9
	(485)	(516)	(1339)	(425)

Socioeconomic Characteristics

A majority of students in all four extension program areas reported annual incomes between $3,000 and $14,999 (Table 10). Fundamental education students were the most likely (45%) to have incomes of less than $3,000. Recreation extension courses drew a higher percentage of students with upper incomes; more than one-fourth of those enrolled had incomes of at least $15,000.

With regard to their parents' incomes, FUND EDUC and OCCU EXT program areas had the highest percentage of students whose parents had annual incomes of less than $6,000, with more than 40% of the students in that category. Academic and RFC EXT programs were more likely to enroll students whose parents' annual income was at least $14,999, with 15% and 21%, respectively, of the students in that income group.

Table 10. Weighted percentage distribution of academic, fundamental education, occupational, and recreation extension students enrolled in North Carolina community colleges/technical institutes, 1974, by student's income, parents' income, household head's occupation, student's education, father's education, and mother's education

Variable	Students			
	ACAD EXT	FUND EDUC	OCCU EXT	REC EXT
Student's income:				
Less than $1,000	7.4	21.9	9.2	2.7
$1,000-1,999	4.1	11.3	7.7	2.0
$2,000-2,999	11.9	11.4	6.6	1.7
$3,000-5,999	20.4	23.8	18.1	11.6
$6,000-7,499	9.0	7.0	8.6	9.2
$7,500-9,999	12.6	10.0	14.4	13.6
$10,00-14,999	19.5	11.0	21.9	33.5
$15,000-19,999	8.2	3.0	8.6	14.4
$20,000 or more	6.9	0.6	4.8	11.3
Total	100.0	100.0	99.9	100.0
	(436)	(461)	(1153)	(359)
Parents' income:				
Less than $3,000	12.9	20.3	23.4	13.4
$3,000-5,999	14.4	20.8	16.9	11.4
$6,000-7,499	5.6	11.6	9.5	10.0
$7,500-9,999	8.3	8.8	8.6	9.8
$10,000-14,999	15.9	14.0	13.1	16.1
$15,000-19,999	7.0	3.9	3.7	10.0
$20,000 or more	8.3	4.1	7.4	10.7
Parents no longer living:	27.6	16.4	17.4	18.6
Total	100.0	99.9	100.0	100.0
	(359)	(393)	(1316)	(425)
Household head's occupation:				
Professional, technical, and kindred workers	18.7	1.9	12.8	13.6
Business owners, managers, administrators, and officials	15.2	3.4	12.1	13.1
Sales, clerical, and kindred workers	10.3	8.1	9.4	11.2
Craftsmen, foremen, and kindred workers	15.6	13.5	17.9	18.9
Operatives	19.4	23.6	17.3	16.6
Laborers, except farm	4.3	10.7	6.5	5.5

Table 10 (continued)

Variable	Students			
	ACAD EXT	FUND EDUC	OCCU EXT	REC EXT
Service workers	5.4	14.7	10.5	8.8
Unskilled workers, except farm	1.7	4.0	1.8	1.4
Farm owners and managers	3.0	2.0	4.7	4.1
Farm foremen	0.8	0.0	0.4	0.4
Farm laborers	1.3	7.7	3.4	1.9
Other	4.2	10.5	3.2	4.6
Total	99.9	100.1	100.0	100.1
	(434)	(425)	(1232)	(407)
Student's education:				
Grammar school or less	12.8	36.7	11.9	4.6
Some high school	11.2	44.4	19.4	14.6
High school graduate	37.3	11.7	39.2	38.5
GED diploma	7.4	2.1	2.3	1.7
Some postsecondary education	14.6	2.9	16.2	24.0
College graduate or more	16.6	2.2	11.0	16.6
Total	99.9	100.0	100.0	100.0
	(500)	(522)	(1364)	(433)
Father's education:				
Grammar school or less	50.4	63.2	57.3	46.7
Some high school	13.4	13.4	15.2	18.6
High school graduate	19.3	16.0	16.8	20.2
GED diploma	0.0	1.1	0.7	0.8
Some postsecondary education	9.0	2.5	5.2	6.0
College graduate or more	8.0	3.9	4.9	7.7
Total	100.1	100.1	100.1	100.0
	(463)	(477)	(1231)	(400)
Mother's education:				
Grammar school or less	42.0	52.8	46.6	35.7
Some high school	16.5	22.7	20.2	18.0
High school graduate	23.0	16.9	22.4	27.5
GED diploma	0.2	0.4	0.2	1.1
Some postsecondary education	10.3	3.8	5.7	8.7
College graduate or more	7.9	3.4	5.0	8.9
Total	99.9	100.0	100.1	99.9
	(464)	(486)	(1228)	(399)

The parents of 13 to 16% of the students in all four program areas had annual incomes of $10,000 to $14,999.

Academic extension programs enrolled the largest number of its students from white-collar households, while FUND EDUC courses drew two-thirds of their enrollment from students whose head-of-household represented a blue-collar or unskilled occupation. About one-third of the students in both OCCU EXT and REC EXT programs were from white-collar households. All four extension program areas enrolled about one-third of their students from blue-collar households. Those from households with heads in agricultural occupations were most likely to be found in FUND EDUC or OCCU EXT programs.

With regard to students' educational levels, 37-39% in each extension program area were high school graduates, with the exception of FUND EDUC students, 80% of whom had not graduated from high school. Recreation Extension courses enrolled the largest percentage of students with some post-secondary or more education (41%) compared to ACAD EXT (31%), OCCU EXT (27%), and FUND EDUC (5%).

The fathers of roughly two-thirds to three-fourths of the students in all extension programs were not high school graduates. The same pattern was true of mothers' education for students in FUND EDUC and OCCU EXT programs. A higher percentage of mothers of students in ACAD EXT and REC EXT were high school graduates or more. In any event, one or both parents of less than 10% of the students in any extension program area were college graduates.

Academic Characteristics

The largest percentage of extension students in all program areas had general curriculum and college-preparatory high school backgrounds (Table 11). Students from the business curriculum were most likely to be enrolled in REC EXT, whereas the largest proportion of students with vocational curriculum backgrounds were found in ACAD EXT and FUND EDUC.

With regard to measures of academic ability, REC EXT students were the most certain to have graduated in the top third of their high school class when compared to those in ACAD EXT, OCCU EXT, and FUND EDUC, which had more than 70% of its students who did not graduate from high school. The same pattern held true when analyzing high school averages, where the greatest proportion of students in all program areas reported they had maintained a "B" average. Students who had averages of "C" or less were most likely to be in FUND EDUC, followed by OCCU EXT, ACAD EXT, and REC EXT, in that order.

Table 11. Weighted percentage distribution of academic, fundamental education, occupational, and recreational extension students enrolled in North Carolina community colleges/technical institutes, 1974, by high school curriculum, high school rank, high school average, and four-year college or university attendance.

Variable	Students			
	ACAD EXT	FUND EDUC	OCCU EXT	REC EXT
high school curriculum:				
Business	9.9	7.5	12.3	22.0
College preparatory	27.4	23.5	21.7	29.8
General	48.3	53.1	57.7	43.8
Vocational	10.6	10.6	6.0	3.5
Other	3.8	5.3	2.2	0.9
Total	100.0	100.0	99.9	100.0
	(432)	(338)	(1034)	(377)
High school rank:				
Upper one-third	37.0	6.5	27.9	42.0
Middle one-third	35.5	16.6	44.2	42.7
Lower one-third	6.4	5.4	6.4	1.4
Did not graduate from high school	21.2	71.5	21.5	13.9
Total	100.1	100.0	100.0	100.0
	(461)	(411)	(1200)	(386)
High school average:				
A (90-100)	22.0	5.0	13.4	23.5
B (80-89)	45.7	31.9	54.5	57.5
C (70-79)	23.0	26.9	26.0	16.9
Below C (less than 70)	2.1	7.1	1.4	0.6
Did not go to high school	7.2	29.2	4.6	1.5
Total	100.0	100.1	99.9	100.0
	(471)	(462)	(1268)	(409)
Full-time student at four-year college or university:				
Yes	23.7	2.5	17.1	23.0
No	76.3	97.5	82.9	77.0
Total	100.0	100.0	100.0	100.0
	(509)	(526)	(1396)	(439)

Almost one-fourth of the ACAD EXT and REC EXT students reported they previously had been full-time students at a four-year college/university, compared to 17% of the OCCU EXT and 2% of the FUND EDUC students.

Attendance Characteristics

Between 42 and 46% of all ACAD EXT and FUND EDUC students reported they attended classes during the day, while over three-fourths of those enrolled in OCCU EXT and REC EXT attended at night (Table 12). About one-half of the students in each of the extension program areas indicated they were enrolled in their first course at that institution, except for those in FUND EDUC courses, three-fourths of whom were attending for the first time.

With the exception of those in FUND EDUC, close to 90% or more of students in each extension program area were enrolled for only one course during the quarter. Nearly 35% of those in FUND EDUC were enrolled in two or more courses.

Over 85% of REC EXT students attended classes for 5 or fewer hours per week, while 47% of FUND EDUC and 37% of OCCU EXT students indicated they attended classes 6 to 10 hours weekly. Although over two-thirds of the ACAD EXT students reported they were in class 5 or fewer hours per week, some 20% reported they spent over 30 hours per week in class.

Research Question 3

> What is the proportion of students enrolled in the North Carolina Community College System compared to the State's population who are eligible to enroll, in terms of their demographic and socioeconomic characteristics?

Research Question 4

> What group(s) is/are not being served by the North Carolina Community College System, in terms of their demographic and socioeconomic characteristics?

To determine the degree to which North Carolina CC/TI are truly the "people's colleges," comparisons were made between basic student characteristics and those of the total adult population of North Carolina as reported in the 1970 Census. The primary operating assumption was that if CC/TI were serving all segments of society, as the philosophy of

Table 12. Weighted percentage distribution of academic, fundamental education, occupational, and recreation extension students enrolled in North Carolina community colleges/technical institutes, 1974, by when they attend class, number of courses taking this quarter, hours in class per week, and extension student enrollment in first course

Variable	Students			
	ACAD EXT	FUND EDUC	OCCU EXT	REC EXT
Attend classes:				
Day	45.7	42.4	21.9	23.6
Evening	54.3	57.6	78.1	76.4
Total	100.0	100.0	100.0	100.0
	(513)	(528)	(1399)	(445)
Number of courses taking this quarter:				
One	90.8	65.1	94.3	88.8
Two	7.3	23.3	4.3	10.1
Three	1.0	5.9	0.6	0.7
Four	0.6	4.7	0.3	0.2
Five	0.1	0.9	0.3	0.2
Six	0.2	0.0	0.1	0.0
Seven	0.0	0.0	0.0	0.0
Eight	0.0	0.0	0.0	0.0
Over eight	0.0	0.0	0.0	0.0
Total	100.0	99.9	99.9	100.0
	(500)	(520)	(1387)	(435)
Hours in class, per week:				
1-5	67.6	22.8	48.8	88.1
6-10	8.1	47.4	36.7	9.4
11-15	1.7	6.8	2.2	0.9
16-20	0.6	11.6	3.7	0.2
21-25	1.1	2.5	0.3	0.4
26-30	0.4	2.3	2.0	0.4
Over 30	20.4	6.7	6.3	0.5
Total	99.9	100.1	100.0	99.9
	(513)	(528)	(1411)	(448)
Extension students enrolled in first course:				
Yes	56.7	74.0	51.7	45.1
No	43.3	26.0	48.3	54.9
Total	100.0	100.0	100.0	100.0
	(457)	(459)	(1214)	(403)

the NCCCS indicates they should, one would expect to find roughly the same distribution of characteristics in those institutions as in the adult population of the State itself.

The basic characteristics chosen for comparison were sex, race, age, educational attainment, occupation, and income.

Demographic Characteristics

The demographic characteristics examined were sex, race, and age.

Sex

When the percentage distribution of students in all educational programs was compared to the adult population in the State by sex (Table 13) a statistical difference was noted between the two, indicating that differences that occur are likely to be the result of an overrepresentation of males rather than the product of differences due to sample fluctuations. Practically speaking, however, when all educational programs are considered together, CC/TI served both males and females in roughly the same proportion as found in the State's population, with only a slight bias in favor of serving a larger percentage of males.

While the percentage of males and females enrolled in all program areas was similar to population percentage distributions, this similarity decreased considerably when curriculum and extension students were compared separately. In curriculum program areas, 61% of the students were males as compared to a 48% distribution of males in the State's population. In extension program areas, the reverse was true, with 69% of the students being female compared to 52% females in the State's population.

Race

According to the 1970 Census data, approximately one of every five North Carolina adults was nonwhite, whereas, one in every four students enrolled in CC/TI in 1974 was a minority group member (Table 13). This tendency for CC/TI to serve a disproportionate percentage of racial minorities was mainly attributable to enrollments in noncredit extension programs, where one-third of all students were from minority groups. Curriculum students, on the other hand, exhibited nearly the same racial characteristics as those of the North Carolina adult population, with only a slight, but statistically significant overrepresentation of whites.

Table 13. Weighted percentage distribution of adults in the population of North Carolina, 1970, as compared with student enrollments in North Carolina community colleges/technical institutes, 1974, by demographic characteristics (sex, race, and age)

Characteristic	North Carolina population[a]	Student enrollment		
		All programs	Curriculum	Extension
Sex:				
Male	47.92	54.65	60.78	31.44
Female	52.08	45.35	39.22	68.56
Total	100.00	100.00	100.00	100.00
	(3,323,017)	(9812)	(6922)	(2890)
Race:				
White	79.68	74.58	82.17	67.72
Nonwhite	20.32	25.42	17.83	32.28
Total	100.00	100.00	100.00	100.00
	(3,323,017)	(9805)	(6920)	(2885)
Age, yr:				
Less than 23	15.48	31.17	44.25	19.39
23-29	15.33	23.47	27.07	20.27
30-39	17.61	19.17	17.04	21.25
40-49	17.95	12.97	9.14	16.42
50-59	15.15	7.65	2.10	12.66
60-69	10.71	3.70	0.33	6.74
70 and older	7.75	1.86	0.08	3.45
Total	99.99	99.99	100.01	100.00
	(3,323,017)	(9817)	(6931)	(2886)

[a] SOURCE: U.S. Bureau of the Census, Census of Population: 1970, General Population Characteristics, Final Report PC(1)-B35 North Carolina (Washington, D.C.: U.S. Government Printing Office, 1972), p. 56.

Age

Americans typically perceive education as an activity reserved for the young. Accordingly the research results of this study tended to confirm that perception, although not to the degree one might expect.

Nearly one-third of the students enrolled in all CC/TI programs were less than 23 years of age, while only 15% of the adult population were in that age group (Table 13). This tendency to serve younger adults disproportionately became even more apparent with curriculum students, 44% of whom were less than 23 years of age.

While the younger age groups, as compared with the total adult population, undoubtedly were significantly overrepresented in the CC/TI, the statistics that follow do not suggest that CC/TI served only the young: (1) the average student enrolled in all educational programs was 33 years of age, with a median age of 28 years; (2) 40% of all curriculum students were between the ages of 26 and 49; and (3) 60% of all extension students were 30 years of age or older.

The seriously underrepresented groups were those in the 50 and older age category, which accounted for over one-third of the State's adult population, but represented only 13% of the CC/TI enrollees in all program areas and less than 3% of all students in the curriculum program areas.

Socioeconomic Characteristics

Socioeconomic characteristics examined were educational attainment, occupation, and income.

Educational Attainment

The greatest discrepancy occurring between the characteristics of North Carolina's adult population and those of CC/TI students was in the area of educational attainment (Table 14). In 1970, over 60% of the North Carolina adults had less than a high school education, or its equivalent. By comparison, only 21% of students in all CC/TI programs were in that category. In curriculum programs, where high school graduation often is prerequisite to enrollment, only 5% of the students were not high school graduates. Even in extension programs, many of which are explicitly designed for those with little education, 65% of the students had successfully completed 12 years of education.

Not only was there evidence of underrepresentation of students with little education in both the curriculum and the extension program areas, there also was a significant overrepresentation of extension students with college and graduate educations.

Table 14. Weighted percentage distribution of adults in the population of North Carolina, 1970, as compared with student enrollments in North Carolina community colleges/technical institutes, 1974, by socioeconomic characteristics (educational attainment, occupation, and income in 1969 dollars)

Characteristic	N. C. population[a]	Student enrollment All programs	Curriculum	Extension
Educational attainment:				
Grammar school or less	37.14	8.11	1.31	14.36
Some high school	24.43	12.69	4.06	20.62
High school graduate	21.64	45.29	53.16	38.14
1-3 yr postsecondary	8.36	24.61	34.76	15.24
College graduate or more	8.44	9.29	6.71	11.64
Total	100.01	99.99	100.00	100.00
	(2,646,272)	(8922)	(6681)	(2241)
Occupation:				
White collar	38.57	37.86	38.93	36.79
Blue collar	40.76	35.49	36.59	34.45
Unskilled	16.04	20.28	18.96	21.55
Farm	4.62	6.37	5.51	7.21
Total	99.99	100.00	99.99	100.00
	(1,984,402)	(8992)	(6494)	(2498)
Income (in 1969 dollars):				
Less than $4,000	21.07	26.78	22.85	34.27
$4,000-7,999	30.68	38.91	40.12	36.13
$8,000-11,999	26.17	25.88	27.96	22.48
$12,000 or more	22.08	8.43	9.07	7.12
Total	100.00	100.00	100.00	100.00
	(1,292,466)	(8320)	(6115)	(2205)

[a] U.S. Bureau of the Census, Census of Population: 1970, General Social and Economic Characteristics, Final Report PC(1)-C35 North Carolina (Washington, D.C.: U.S. Government Printing Office, 1972), pp. 208, 214-215, 220.

Occupation

Statistical tests comparing students in all CC/TI programs with the general North Carolina adult population with regard to occupations revealed no significant differences between the two groups. Similar comparisons with curriculum and extension students produced the same results. Based on the evidence in Table 14, the major occupational groupings tended to be proportionately represented in CC/TI educational programs.

Income

When the income characteristics of CC/TI students were compared to the North Carolina adult population and adjusted for the effects of inflation between the time when the 1970 Census was taken and when the data for this study were gathered, CC/TI appeared to be serving a larger proportion of low-income groups than was indicated in the State's population.

Chi-square analysis revealed statistically significant differences between student income characteristics and those of the adult population, with a disproportionate representation of annual income groups in the less than $8,000 category, using 1969 dollars.

The largest difference for curriculum students was in the $4,000-$7,999 income group, representing 39% of those students as compared to 31% of the State's population (Table 14). For extension students, the greatest discrepancy occurred among the lowest income category, where 35% of those students were represented, whereas, only 21% of the State's adult population had incomes of less than $4,000. Interestingly, the middle-income group ($8,000-$11,999) was proportionately represented across all student categories, while the upper-income group ($12,000 or more) was significantly underrepresented.

Based on that evidence, if CC/TI were placing emphasis on serving any one income group more than others, the emphasis was on serving low-income groups at the expense of those in upper-income brackets.

Research Question 5

What changes have occurred in the profile of curriculum students since the 1968 Bolick survey?

A major objective of this study was to assess the degree to which the characteristics of curriculum students had changed over the six-year period since the 1968 Bolick survey. Utilizing the general curriculum student profile reported earlier, comparisons were made with Bolick's data on 26 variables, grouped under major categories of demographic characteristics, socioeconomic characteristics, factors related to student attendance, and student plans for the future. Each of these groups of variables is discussed in the sections that follow.

Demographic Characteristics

Five demographic variables were compared to include sex, race, age, marital status, and place of residence.

Sex and Race

Comparison of the findings of this and the Bolick survey with respect to percentage distribution of students by sex revealed a significant increase in the proportion of females to males enrolled in curriculum programs (Table 15). A similar increase was found in the percentage of minority group students being served in curriculum programs, with a 4% increase in the proportion of nonwhite students enrolled (Table 15).

Age

In 1968, 74% of all curriculum students were under 23 years of age. By 1974 this tendency toward serving mainly younger students had shifted, with the largest increases occurring in the 26-39 age groups. The smallest increase involved students who were 50 years of age and older, with only a 2% change (Table 15).

Marital Status

Due at least in part to the trend of serving a larger proportion of older students, a significant shift had occurred in the marital status of curriculum students since 1968. Whereas in 1968 nearly two-thirds of the students were single, the data indicate that in 1974 more than one-half were married (Table 15).

Table 15. Weighted percentage distribution of curriculum students enrolled in North Carolina community colleges/technical institutes, 1974, as compared to 1968, by sex, race, age, marital status, and place of residence

Characteristic	Curriculum students		Change
	1968	1974	%
Sex:			
Male	67.8	60.8	-7.0
Female	32.2	39.2	+7.0
Total	100.0	100.0	
	(11,122)	(6922)	
Race:			
White	86.8	82.2	-4.6
Black	12.3	16.2	+3.9
American Indian	0.8	0.7	-0.1
Other	0.0	0.8	+0.8
Total	99.9	99.9	
	(11,055)	(6920)	
Age, yr:			
Less than 18	0.8	0.3	-0.5
18	19.7	7.6	-12.1
19	28.4	14.6	-13.8
20-22	24.8	21.7	-3.1
23-25	7.5	13.3	+5.8
26-29	5.7	13.8	+8.1
30-39	8.3	17.0	+8.7
40-49	3.8	9.2	+5.4
50 and older	0.9	2.5	+1.6
Total	99.9	100.0	
	(11,149)	(6931)	
Marital status:			
Single	68.7	43.8	-24.9
Married	28.1	51.0	+22.9
Widowed	0.8	0.8	0.0
Separated	1.0	2.1	+1.1
Divorced	1.4	2.2	+0.8
Total	100.0	99.9	
	(11,131)	(6934)	

Table 15 (continued)

Characteristic	Curriculum students 1968	Curriculum students 1974	Change %
Residence:			
With parents	57.2	34.2	-23.0
With spouse	24.6	49.8	+25.2
Boarding student	10.6	1.3	-9.3
Other	7.5	14.7	+7.2
Total	99.9	100.0	
	(11,048)	(6759)	

Place of Residence

As one might expect, given the foregoing changes in age and marital status, curriculum students' places of residence also were substantially different from those previously described. In the six years covered by the comparison, reflected in Table 15, the percentage of students living with their parents decreased from 57 to 34%, while the percentage living with their husbands or wives had doubled. In addition, other changes not so easily explained had occurred. The percentage of boarding students decreased from 11% to 1%, while the percentage of those reported as residing with other students, alone, or with relatives other than parents increased from 8% to 15%. Exactly what factors accounted for those changes are uncertain.

Socioeconomic Characteristics

While it would be most desirable to compare the relative changes in student socioeconomic characteristics along a wide continuum of possible variables, the unavailability of more comparative data limited the present analysis to a comparison of only five variables. Thus, student socioeconomic characteristics compared here were: student's income, parents' income, student's education, father's education, and mother's education.

Student Income

In the years between 1968 and 1974, curriculum student characteristics with regard to annual income shifted dramatically, when adjustments were made for inflation. Reported in 1969 dollars, the percentage of students with annual incomes of less than $7,500 decreased from 97% in 1968 to 69% in 1974, while the percentage of those with incomes of $7,500 or more increased from 3% to 31% (Table 16). Further analysis indicated that much of that change could be accounted for in terms of the increased enrollment of older students, who tended to be employed full time and to have higher annual incomes than their younger counterparts.

Parents' Income

An additional means of assessing if and to what degree CC/TI were serving higher socioeconomic status groups in 1968 and 1974 was through an analysis of parental annual income. Data in Table 16 indicate a significant change in parents' annual income, dropping from 69% to 48% for students whose parents' incomes were less than $7,500, with those whose parents' incomes were $7,500 or more increasing from 31% to 47% between 1968 and 1974. However, unlike the increase in student income, changes in parental income could not be accounted for in terms of the increase in the proportion of older students. The study of the relationship between student age and parental income yielded an $r = -.24$, which indicated that it was the younger students who were from the wealthier economic groups. Thus, to some extent at least, the changes in parental income reflected a tendency for CC/TI to serve a larger proportion of higher-income groups in 1974 than in 1968.

Students' Educational Attainment

The comparison of students' educational attainment in 1968 and 1974 also revealed that certain changes had occurred (Table 16). The proportion of students whose highest educational attainment was high school graduation or its equivalent decreased from 69% in 1968 to 53% in 1974, while the proportion of those with postsecondary education increased from 24% to 41%. The percentage of curriculum students who were less than high school graduates remained relatively unchanged.

Fathers' and Mothers' Educational Levels

Unlike the preceding variables, which shifted significantly over the six-year period under study, fathers' and mothers' educational levels showed no significant changes (Table 16). As in 1968, the parents of most curriculum students had a high school education or less, and their mothers tended toward higher educational achievement than their

Table 16. Weighted percentage distribution of curriculum students enrolled in North Carolina community colleges technical institutes, 1974, as compared to 1968, by student's income (in 1967 dollars), parents' income (in 1967 dollars), student's education, father's education, and mother's education

Characteristic	Curriculum students		Change
	1968	1974	%
Student's income:			
Less than $3,000	76.0	38.6	-37.4
$3,000-5,999	17.1	22.5	+5.4
$6,000-7,499	3.8	8.3	+4.5
$7,500-9,999	2.0	19.0	+17.0
$10,000 and more	1.2	11.5	+10.3
Total	100.1	99.9	
	(10,334)	(6486)	
Parents' income:			
Less than $3,000	17.5	15.9	-1.6
$3,000-5,999	34.9	23.3	-11.6
$6,000-7,499	16.6	8.6	-8.0
$7,500-9,999	14.7	18.1	+3.4
$10,000 and more	16.2	28.8	+12.6
Parents no longer living	--	5.3	--
Total	99.9	100.0	
	(9944)	(5932)	
Student's education:			
Grammar school or less	1.6	1.3	-0.3
Some high school	4.9	4.1	-0.8
High school graduate	64.0	45.4	-18.6
GED certificate	5.2	7.7	+2.5
1 yr beyond high school	18.2	20.3	+2.1
2-4 yr beyond high school	5.8	19.3	+13.5
Graduate work and above	0.3	1.9	+1.6
Total	100.0	100.0	
	(11,054)	(6879)	
Father's education:			
Less than 7th grade	15.8	19.0	+3.2
7th-8th grade	21.5	19.3	-2.2
Some high school	26.6	19.2	-7.4
High school graduate	24.9	25.0	+0.1
Some postsecondary to college graduate	8.8	15.0	+6.2
Graduate work or higher	2.5	2.6	+0.1
Total	100.1	100.1	
	(10,810)	(6756)	

Table 16 (continued)

Characteristic	Curriculum students 1968	Curriculum students 1974	Change
Mother's education:			
Less than 7th grade	8.3	9.0	+0.7
7th-8th grade	15.8	15.5	-0.3
Some high school	31.9	22.4	-9.5
High school graduate	31.7	35.0	+3.3
Some postsecondary to college graduate	10.6	16.2	+5.6
Graduate work or higher	1.8	1.8	0.0
Total	100.1	99.9	
	(10,871)	(6796)	

fathers. There seemed to be somewhat of a change toward serving a larger proportion of students whose parents had postsecondary education than in the past, but whether this was due to an actual change or due merely to random fluctuation within the sample questioned was uncertain.

Academic Characteristics

Factors normally associated with describing student academic characteristics were compared against those occurring in 1968, that is, their high school curriculum and program area of enrollment.

High School Curriculum

The data in Table 17 reveal no significant changes in the percentage distribution of curriculum students who came to CC/TI from the various high school curricula. The majority of students continued to be those from a general curriculum, with approximately one-third having a college-preparatory background, and 10% from a vocational high school curriculum.

Program Area of Enrollment

While student characteristics relative to their high school curriculum remained essentially unchanged over the

Table 17. Weighted percentage distribution of curriculum students enrolled in North Carolina community colleges/technical institutes, 1974, as compared to 1968, by high school curriculum, program area of selection, attendance, hours in class, employment status, attendance at other institutions had theirs not existed, distance traveled to class, location of institution, educational plans, North Carolina employment plans, and other employment plans

Characteristic	Curriculum students		Change
	1968	1974	%
High school curriculum:			
College preparatory	34.3	34.9	+0.6
General	54.9	56.2	+1.3
Vocational	10.8	8.9	-1.9
Total	100.0	100.0	
	(10,756)	(6577)	
Program area:			
College transfer	23.7	18.5	-5.2
Technical	47.3	57.3	+10.0
Vocational	29.0	24.2	-4.8
Total	100.0	100.0	
	(11,095)	(5693)	
Attendance:			
Day	83.7	65.4	-18.3
Evening	16.3	34.5	+18.2
Total	100.0	99.9	
	(11,111)	(6924)	
Hours in class, per week:			
15 or less	27.0	52.0	+25.0
16-20	26.0	17.2	-8.8
21-25	17.2	10.4	-6.8
26-30	14.4	12.6	-1.8
Over 30	15.4	7.8	-7.6
Total	100.0	100.0	
	(10,937)	(6937)	
Employment status:			
Full time	21.4	45.5	+24.1
Part time	32.6	25.4	-7.2
Unemployed and other	46.0	29.2	-16.8
Total	100.0	100.1	
	(11,079)	(6805)	

Table 17 (continued)

Characteristic	Curriculum students		Change
	1968	1974	%
Would have attended another institution if theirs had not existed:			
Yes	69.6	59.3	-10.3
No	30.4	40.7	+10.3
Total	100.0	100.0	
	(10,880)	(6890)	
Distance traveled to class, in miles (one way)			
Less than 1	6.0	6.5	+0.5
1-15	66.4	68.7	+2.3
16-25	13.9	16.3	+2.4
26-30	5.7	3.7	-2.0
Over 30	8.0	4.7	-3.3
Total	100.0	99.9	
	(11,108)	(6789)	
Location of institution:			
In home county	62.2	66.4	+4.2
Not in home county	37.8	33.6	-4.2
Total	100.0	100.0	
	(11,081)	(6921)	
Plan to work toward 4-year degree:			
Yes	39.6	54.9	+15.3
No	60.4	45.1	-15.3
Total	100.0	100.0	
	(10,703)	(4426)	
Plan to be employed in North Carolina:			
Yes	81.8	87.9	+6.1
No	18.2	12.1	-6.1
Total	100.0	100.0	
	(10,768)	(4791)	
Other employment plans:			
Military service	24.9	3.6	-21.3
Marriage	20.0	5.8	-14.2
Employment outside N. C.	41.1	77.1	+36.0
Other	14.0	13.5	-0.5
Total	100.0	100.0	
	(2725)	(574)	

six-year period studied, there was some question as to whether the same was true regarding the program area students enrolled in once they were admitted to a CC/TI. The data indicate a slight trend toward a percentage increase in students enrolled in TECH programs, with concomitant percentage decreases in COL-TR and VOC program areas (Table 17). This interpretation is speculative, however, since the changes may have been a function of sample fluctuation and random error, rather than actual change.

Attendance Characteristics

Included in this section are comparisons between CC/TI student attendance patterns in 1968 and 1974. Factors considered were: when they attended classes, the number of hours per week they were in class, their employment status, whether students would have attended another institution if theirs had not existed, the distance traveled to class one way, the location of the institution with relation to their place of residence, and student plans regarding further education and future employment.

When Classes Were Attended, Hours Per Week in Class, and Employment Status

Curriculum student attendance patterns altered considerably over the six-year period under study with regard to evening enrollments. The distribution increased from 16% in 1968 to 34% in 1974 (Table 17). This change probably is attributable to the increasing percentage of students who were attending classes part time in the evening. The data support this explanation, inasmuch as significantly higher percentages of students with 15 or fewer class contact hours per week were enrolled and employed full time. An increase from 27% to 52% occurred in the distribution of students who were in class 15 or fewer hours per week, while the distribution of those in class for more hours declined. Similarly, the percentage distribution of students employed full time more than doubled between 1968 and 1974 (Table 17).

Distance Traveled, Attendance at Other Institutions, and Residence Status

Attendance patterns related to the proximity of CC/TI to the communities they serve continued relatively unchanged since 1968 with regard to the distances students traveled to class and the percentage of students residing in the county in which the institution is located, but there was a significant increase in the percentage of curriculum students who reported they would not have attended any other institution if theirs had not existed. Three-fourths of the curriculum students lived 15 or fewer miles from their classes, much the same as students in 1968 (Table 17). Similarly, about two-thirds of those students were residents of the county in which the institution is located, representing a small but statistically significant increase of 4% since 1968. Although the aforementioned changes were small, the percentage of students indicating they would not have attended another institution had it not been for the presence of their CC/TI increased considerably between 1968 and 1974, i.e., from 30% to 41% (Table 17).

Students' Education and Employment Plans

In 1969 Bolick reported on curriculum students' plans regarding further education and future employment. Contrasting current data with Bolick's findings, a significantly larger percentage of curriculum program students indicated they planned to work toward a four-year college degree and expected to work in North Carolina. In 1968 only 40% of the students planned to work toward a four-year degree; by 1974 this had increased to 55% (Table 17). Students reporting they planned to be employed in North Carolina also increased by 6% over the six-year period studied. As for those who did not plan to be employed in the State, the percentage of those planning to enter military service decreased from 25% to 4%, those planning marriage decreased from 20% to 6%, and those planning to be employed outside North Carolina increased from 41% to 77%.

Research Question 6

> Which students in what educational program areas would least likely continue their education were it not for the existence of community colleges/technical institutes, in terms of their demographic and socioeconomic characteristics?

Total Student Body

Over 60% of all students responding to Research Question 6 indicated that, if the CC/TI they were attending had not existed, they would not have attended any other educational institution during 1974 (Table 18). Extension students were

Table 18. Weighted percentage distribution of curriculum and extension students who would have attended another educational institution if their community college/technical institute had not existed, 1974, by sex, race, age, primary income, head-of-household's occupation, student's education, father's education, mother's education, and program area

Variable	Curriculum students			Extension students		
	N	Yes	No	N	Yes	No
Sex:						
Male	4079	59.3	40.7	918	29.2	70.8
Female	2722	59.5	40.5	2732	20.0	80.0
Total	6801	59.4	40.6	2732	20.0	80.0
Race:						
Nonwhite	1171	61.8	38.2	922	24.8	75.2
White	5630	58.9	41.1	1910	17.8	82.2
Total	6801	59.4	40.6	2832	20.0	80.0
Age:						
19 or less	2043	80.0	20.0	298	34.9	65.1
20-25	2491	63.9	36.1	585	27.3	72.7
26-29	858	49.9	50.1	301	23.6	76.4
30-59	1470	39.9	60.1	1330	16.3	83.7
60 or more	20	38.3	61.7	269	1.3	98.7
Total	6882	59.2	40.8	2783	20.4	79.6
Primary income:						
Less than $3,000	468	62.4	37.6	390	14.5	85.5
$3,000-5,999	951	58.7	41.3	391	23.3	76.7
$6,000-7,499	599	61.5	38.4	217	29.5	70.5
$7,500-9,999	965	56.8	43.2	290	24.5	75.5
$10,000-14,999	1836	58.4	41.6	507	20.0	80.0
$15,000-19,999	725	56.4	43.6	203	20.1	79.9
$20,000 or more	535	62.5	37.5	141	20.3	79.7
Total	6079	58.9	41.0	2139	21.2	78.8

Table 18 (continued)

Variable	Curriculum students N	Curriculum students Yes	Curriculum students No	Extension students N	Extension students Yes	Extension students No
Household head's occupation:						
Professional, technical, & kindred workers	760	55.4	44.6	323	17.4	82.6
Business owners, managers, administrators, & officials	901	60.4	39.6	297	18.6	81.4
Sales, clerical, & kindred workers	794	57.5	42.4	226	21.9	78.1
Craftsmen, foremen & kindred workers	1303	61.1	38.9	406	25.2	74.8
Operatives	1022	59.9	40.1	422	23.9	76.1
Laborers, except farm	328	62.3	37.7	148	19.3	80.7
Service workers	580	55.6	44.4	232	20.1	79.9
Unskilled workers, except farm	62	71.8	28.2	52	15.3	84.7
Farm owners & managers	307	68.7	31.3	92	8.4	91.6
Farm foremen	29	67.1	32.9	8	13.8	86.2
Farm laborers	64	56.4	43.5	86	7.6	92.4
Other	306	59.7	40.3	124	20.2	79.8
Total	6456	59.5	40.5	2417	20.3	79.7
Student's education:						
Grammar school or less	63	38.2	61.8	425	11.6	88.4
Some high school	185	49.8	50.2	609	25.0	75.0
High school graduate	3207	59.4	47.6	910	19.3	80.7
GED diploma	474	52.4	47.6	89	43.0	57.0
Some postsecondary education	2674	66.1	33.9	412	20.6	79.4
College graduate or more	238	40.5	59.5	299	17.4	82.6
Total	6841	59.3	40.7	2744	20.1	79.9

Table 18 (continued)

Variable	Curriculum students N	Curriculum students Yes	Curriculum students No	Extension students N	Extension students Yes	Extension students No
Father's education:						
Grammar school or less	2380	50.9	49.1	--	--	--
Some high school	1320	57.9	42.1	--	--	--
High school graduate	1641	66.9	33.1	--	--	--
GED diploma	96	72.7	27.3	--	--	--
Some postsecondary education	694	70.8	29.2	--	--	--
College graduate or more	587	66.7	33.3	--	--	--
Total	6718	58.5	40.5	--	--	--
Mother's education:						
Grammar school or less	1485	47.9	52.1	--	--	--
Some high school	1532	58.0	42.0	--	--	--
High school graduate	2374	63.8	36.2	--	--	--
GED diploma	66	63.0	37.0	--	--	--
Some postsecondary education	742	69.3	30.7	--	--	--
College graduate or more	559	68.1	31.9	--	--	--
Total	6758	59.5	40.5	--	--	--
Program area:						
Curriculum program:						
College transfer	1283	76.8	23.2	--	--	--
Technical	3696	60.2	39.8	--	--	--
Vocational	1158	54.0	46.0	--	--	--
Total	6137	59.3	40.7	--	--	--
Extension program:						
Academic Extension	--	--	--	496	26.7	73.3
Fundamental Education	--	--	--	523	27.2	72.8
Occupational Extension	--	--	--	1342	18.6	81.4
Recreation Extension	--	--	--	434	14.2	85.5
Total	--	--	--	2795	20.6	79.4

the least likely to have continued their education if their local institution was not in operation, with only one in five students indicating they would have attended classes elsewhere. Over 40% of the curriculum students and 80% of the extension students reported they would not have attended any other institution.

Curriculum Students

Among curriculum students, males and females would have been affected about equally by the lack of a local CC/TI, as would both white and nonwhite students (Table 18). Among differing age groups, however, older curriculum students would have been less likely to have continued their education than younger students. Eighty percent of the curriculum students 19 years old or less indicated they would have enrolled in classes elsewhere, while less than 40% of the persons 30 years of age and older reported they would have done the same.

Curriculum students in differing income and occupational groupings apparently would have been affected in the same ways, although students whose heads-of-household were unskilled workers, farm owners, farm managers, or farm foremen indicated they would have been more likely to continue their education than students whose heads-of-household were from other occupational groups.

Similarly, either curriculum students with little formal education or those whose parents had little formal education would have been most affected by the lack of a local CC/TI. Over 50% of the curriculum students who were not high school graduates reported they would not have continued their education, compared to roughly one-third of those students with some postsecondary education. Students who were four-year college graduates also were less likely to enroll in courses elsewhere. With regard to parents' educational level, those curriculum students whose parents had grammar school educations or less were the least certain to have attended another institution.

When the data were analyzed by program area, VOC students appeared the least likely to have continued their education in the absence of their local CC/TI, while over three-fourths of the COL-TR students indicated they would have enrolled elsewhere.

Extension Students

As mentioned earlier, 80% of all extension students probably would not have continued their educations if their local CC/TI had not existed. Certain types of extension students, though, would have been more affected than others.

Females in extension programs, 84% of whom indicated they would not have enrolled in courses at another institution, would have been less likely than males to continue. However, nonwhite extension students were more likely than white students to attend another institution if theirs had not existed (Table 18).

As in the case of curriculum programs, older students in extension courses also reported they would not have attended classes elsewhere. Students 30 years of age and older would have been most affected, and among those 60 and older, nearly all indicated they would not have continued in a formal educational program.

Among various income and occupational groups, extension students whose primary income was less than $3,000 annually and those whose heads-of-household were employed in unskilled jobs or agricultural occupations were among the students who would least likely have attended courses at another institution if theirs had not existed.

Extension students whose educational attainment was grammar school or less and those who were college graduates would have been the least likely groups to have attended another institution. On the other hand, persons with some high school education or had earned a high school equivalency diploma or certificate would have been among the most certain to have persisted with their education, even if there was no local CC/TI, although less than one-half of the students enrolled would have done so.

With regard to which extension students in what program would have been most affected, REC EXT students, followed by OCCU EXT students would have most affected. About one-fourth of the students in ACAD EXT and FUND EDUC reported they would have gone to another institution.

Research Question 7

> Which students in what educational program areas are least likely to attend a community college/technical institute as the commuting distance to and from class increases?

Total Student Body

Nearly 85% of all students who participated in this study drove 15 or fewer miles to attend classes; over one-half commuted 5 or less miles (Table 19). Curriculum and extension

Table 19. Weighted percentage distribution of curriculum and extension students enrolled in North Carolina community colleges and technical institutes, 1974, by program area and distance to class

Distance to class in miles[a]	Curriculum students				Extension students					All students
	COL-TR	TECH	VOC	Total	ACAD EXT	FUND EXT	OCCU EXT	REC EXT	Total	
Less than 1	2.8	5.3	10.6	6.5	27.4	40.7	21.7	14.7	24.3	15.9
1-5	29.9	31.5	27.8	30.7	45.0	27.4	41.0	47.5	40.9	36.1
6-10	22.4	21.8	21.6	22.4	14.2	15.5	18.1	22.9	17.8	20.0
11-15	18.6	16.1	13.0	15.6	6.7	9.1	8.8	9.4	8.6	11.9
16-20	9.4	11.2	8.7	10.1	2.4	4.0	5.5	2.9	4.3	7.1
21-25	5.8	6.0	8.4	6.2	1.5	1.5	2.6	2.3	2.1	4.1
26-30	3.6	4.0	3.5	3.7	0.7	0.6	1.2	0.0	0.8	2.2
31-35	4.2	2.2	2.4	2.3	0.3	0.7	0.6	0.0	0.4	1.3
Over 35	3.2	2.0	4.0	2.4	1.8	0.4	0.5	0.3	0.7	1.5
Total	99.9	100.1	100.0	99.9	100.0	99.9	100.0	100.0	99.9	100.1
	(1270)	(3646)	(1133)	(6789)	(501)	(521)	(1375)	(436)	(2833)	(9622)

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[a] One way.

students differed considerably in that nearly two-thirds of extension program students traveled 5 or fewer miles, compared to about 37% for curriculum students. As the distance to class increased, a greater proportion of curriculum students tended to travel farther than extension students. While nearly 15% of curriculum students drove more than 20 miles to class one way, only 4% of extension students did so. Once the distance to class exceeded 10 miles, the attendance rate for extension students dropped almost exactly in half for each successive 5 miles added.

Curriculum Students

When curriculum students were analyzed by educational program area, VOC students were more likely than either TECH or COL-TR students to drive less than one mile to classes (Table 19), although nearly three-fourths of the students in all three program areas traveled 15 or fewer miles to class. Once the distance exceeded 20 miles, the attendance rate was approximately the same for all curriculum students.

Extension Students

Those extension students in FUND EDUC programs were the most likely to travel less than one mile to class (Table 19). With 80-85% of the students in each of the four extension program areas traveling 10 or fewer miles to class one way, increasing the distance had no appreciable effect on any one over another of the extension groups.

Research Question 8

> Which students in what educational programs are selecting community colleges/technical institutes as their first choice over other forms of postsecondary education?

Total Student Body

When students were asked if the CC/TI where they were enrolled was their first choice among postsecondary institutions for continuing their education, about 80% of all respondents replied affirmatively (Table 20). Although when compared to those enrolled in credit programs a greater proportion of extension students tended to prefer their institutions, the difference was slight, with three of four curriculum students naming their CC/TI as first choice.

Table 20. Weighted percentage distribution of curriculum and extension students enrolled in North Carolina community colleges/technical institutes, 1974, by their institution as first choice and other first-choice institution

Variable	Students		
	Curriculum	Extension	Total
This institution first choice:			
Yes	75.2	85.6	80.5
No	24.8	14.4	19.5
Total	100.0	100.0	100.0
	(6888)	(2627)	(9515)
If No, type of institution that was first choice:			
Other CC/TI	28.7	30.7	29.4
Private 2-year college	7.2	6.5	7.0
Public 4-yr college/university	50.4	37.2	46.4
Private 4-year college/university	8.2	5.6	7.4
Other	5.5	19.9	9.9
Total	100.0	99.9	100.1
	(1768)	(289)	(2057)

Among the approximately 20% who indicated as first choice an institution other than the one they were attending, nearly one-half stated a preference for a public four-year college/university, and roughly one in three reported another CC/TI as first choice. About one in five indicated as first choice either some type of private institution or "other." Curriculum and extension students who indicated as first choice some other institution differed, as curriculum students tended more to prefer public four-year institutions than did extension students. A greater proportion of extension as compared to curriculum students reported their first choice as "other."

Curriculum Students

When curriculum students were analyzed by educational program area of enrollment, a greater percentage of VOC students than students in any other program area named as first choice the CC/TI they were attending (Table 21). College-transfer students were least likely to have stated a preference for this institution, with approximately one-third reporting another institution as first choice.

Table 21. Weighted percentage distribution of college-transfer, technical, and vocational students enrolled in North Carolina community colleges/ technical institutes, 1974, by their institution as first choice and other first-choice institution

Variable	Curriculum students		
	COL-TR	TECH	VOC
This institution first choice:			
Yes	66.3	75.9	79.2
No	33.7	24.1	20.8
Total	100.0	100.0	100.0
	(1285)	(3701)	(1157)
If No, type of institution that was first choice:			
Other CC/TI	13.1	30.6	51.8
Private 2-yr college	5.1	8.0	5.8
Public 4-yr college/university	71.1	48.0	31.0
Private 4-yr college/university	8.5	8.9	1.7
Other	2.3	4.6	9.8
Total	100.1	100.1	100.1
	(434)	(930)	(222)

Of those students who preferred to enroll in another institution, nearly three-fourths of COL-TR students stated as their first choice a public four-year college/university. Almost half of the TECH students who preferred another institution also indicated a public four-year college/university as first choice, with another 30% preferring to enroll in a different CC/TI. The VOC students, on the other hand, tended to have another CC/TI as their preference, if they did not pick their own institution as first choice. Roughly one-third of the VOC students who reported preference for another institution indicated as first choice a public four-year college/university.

Extension Students

While a very high proportion of extension students in all program areas reported their CC/TI as first choice, those enrolled in FUND EDUC courses had the highest percentage (Table 22). Over 90% of FUND EDUC students indicated their institutions as first choice compared to a range of about 82% to 86% for those in other types of extension courses.

Table 22. Weighted percentage distribution of academic, fundamental education, occupational, and recreation extension students enrolled in North Carolina community colleges/technical institutes, 1974, by their institution as first choice and other first-choice institution

Variable	Students			
	ACAD EXT	FUND EDUC	OCCU EDUC	REC EXT
This institution first choice:				
Yes	82.9	92.5	85.7	82.4
No	17.1	7.5	14.3	17.6
Total	100.0	100.0	100.0	100.0
	(465)	(492)	(1260)	(410)
If No, type of institution that was first choice:				
Other CC/TI	28.3	77.9	25.7	30.8
Private 2 yr college	8.9	8.3	6.1	4.5
Public 4 yr college/university	45.1	6.9	40.3	31.2
Private 4 yr college/university	0.4	0.0	7.8	7.8
Other	17.2	6.9	20.1	25.8
Total	99.9	100.0	100.0	100.1
	(64)	(34)	(140)	(51)

Similarly, among extension students who indicated as first choice an institution other than the one in which they were enrolled, students in FUND EDUC overwhelmingly preferred to attend another CC/TI rather than any other type of postsecondary institution. Students in other extension program areas typically had the greatest proportion preferring public four-year colleges/universities, followed by another CC/TI and "other," respectively.

Research Question 9

What forms of recruitment strategies attract students in different educational program areas to community colleges/technical institutes?

Total Student Body

When all students were considered, the five most frequently cited types of persons who had influenced students' decisions to attend a CC/TI included friends who were not students, employers, spouses, other students, and CC/TI personnel, respectively (Table 23). However, when analyzed by program area, parents rather than friends were the most influential among curriculum students, even though friends continued to be important. Proportionately, extension students mentioned friends twice as often as did curriculum students, while parents were reported three times more often by curriculum than by extension students.

Sources of information regarding educational programs and courses most frequently reported by all students were friends (not students), CC/TI personnel, institutional literature, other students, employers, and mass media (Table 23). Important distinctions between curriculum and extension students were most pronounced in the category of "friends," which was cited twice as often by extension as by curriculum students. Institutional literature was reported over twice as often by curriculum as it was by extension students.

Curriculum Students

When curriculum students were analyzed by the particular educational program area in which they were enrolled, about one of every five COL-TR students reported their parents as the persons who most influenced their decision to attend that institution (Table 24); other influential persons included friends (not students), other students, their spouse, and "other."

When the data in Table 24 were analyzed from a different perspective, CC/TI personnel were relatively least influential with COL-TR students and most influential with VOC students. This same generalization was true for vocational high school teachers, friends (not students), and social service agency personnel. Employers were reported more frequently by TECH and VOC students than by those in COL-TR programs. On the other hand, four-year college/university personnel, academic high school teachers, high school

Table 23. Weighted percentage distribution of curriculum and extension students enrolled in North Carolina community colleges/technical institutes, 1974, by person who influenced student's decision to attend institution and first source of information regarding program or course in which enrolled

Variable	Students		
	Curriculum	Extension	Total
Person who influenced decision to attend institution:			
CC/TI personnel	9.2	12.9	11.1
Employer	11.4	13.4	12.5
4-yr college/university personnel	1.2	0.3	0.7
Academic high school teacher	1.2	0.5	0.8
High school coach	0.2	0.1	0.1
High school counselor	4.1	0.5	2.2
VOC high school teacher	1.4	0.7	1.0
Parent	15.0	4.9	9.7
Spouse	13.4	9.7	11.5
Other relative	4.9	7.1	6.1
Friend, not student	13.6	27.3	20.9
Student	11.5	10.9	11.2
Social service agency	1.7	3.1	2.4
Other	11.1	8.7	9.8
Total	100.1 (6760)	100.1 (2739)	100.0 (9499)
First source of information regarding program or course:			
CC/TI personnel	18.5	14.8	16.6
Employer	9.1	12.5	10.9
4-yr college/university personnel	1.0	0.2	0.6
Academic high school teacher	1.6	0.8	1.2
High school coach	0.3	0.1	0.2
High school counselor	6.3	0.6	3.3
VOC high school teacher	1.5	0.8	1.3
Institutional literature	21.3	8.2	14.5
TV, radio, newspaper	7.8	13.4	10.7
Parent	2.4	1.9	2.1
Spouse	1.6	1.8	1.7
Other relative	3.8	5.7	4.8
Friend, not student	10.5	24.4	17.7
Student	13.1	11.3	12.1
Social service agency	1.1	3.5	2.3
Total	99.9 (6647)	100.0 (2672)	100.0 (9319)

Table 24. Weighted percentage distribution of college transfer, technical, and vocational students enrolled in North Carolina community colleges/technical institutes, 1974, by person who influenced student's decision to attend institution and first source of information regarding program or course in which enrolled

Variable	Curriculum students		
	COL-TR	TECH	VOC
Person who influenced decision to attend institution:			
CC/TI personnel	6.2	10.5	12.2
Employer	6.5	10.1	9.5
4-yr college/university personnel	4.0	1.0	0.3
Academic high school teacher	1.6	1.4	0.7
High school coach	0.2	0.2	0.2
High school counselor	6.2	4.5	3.0
VOC high school teacher	0.2	1.5	2.5
Parent	21.4	16.1	11.6
Spouse	11.8	13.8	12.7
Other relative	5.5	4.6	5.7
Friend, not student	12.1	13.9	15.8
Student	12.1	11.6	12.1
Social service agency	1.2	1.3	3.4
Other	11.1	9.6	10.2
Total	100.1 (1270)	100.1 (3642)	99.9 (1127)
First source of information regarding program or course:			
CC/TI	22.6	19.1	17.8
Employer	3.0	6.8	8.3
4-yr college/university personnel	3.7	0.6	0.1
Academic high school teacher	3.0	1.8	0.9
High school coach	0.6	0.2	0.4
High school counselor	9.6	6.9	5.2
VCC high school teacher	0.1	2.0	2.3
Institutional literature	23.4	22.5	19.8
TV, radio, newspaper	4.8	7.0	7.5
Parent	2.8	2.6	2.3
Spouse	2.0	1.2	1.5
Other relative	4.0	3.7	5.0
Friend, not student	6.2	11.3	12.9
Student	12.9	13.4	13.6
Social service agency	1.2	0.9	2.5
Total	99.9 (1240)	100.0 (3577)	100.1 (1113)

counselors, and parents were most influential among COL-TR students and least influential among VOC students. Persons reported as being influential with relatively equal frequency by students in all curriculum program areas were high school coaches, spouses, other relatives, other students, and "other." (A majority of curriculum students who chose "other" indicated they felt their decision to attend a particular institution was influenced by no one other than themselves.)

Table 24 also reports student sources of information by type of curriculum program as distinguished from the preceding analysis which was directed at persons of influence. The responses indicated that the largest percentages of COL-TR students cited institutional literature, CC/TI personnel, and other students as their first source of information regarding educational programs or courses offered by CC/TI. This same pattern was noted for TECH and VOC students, except that the category of friends (not students) was indicated by more than 10% of those students.

First sources of information for a greater proportion of COL-TR than for TECH or VOC students were CC/TI personnel, four-year college/university personnel, academic high school teachers, high school counselors, and to some extent, institutional literature. On the other hand, employers, vocational high school teachers, mass media, and friends (not students) were first sources of information for a greater proportion of TECH and VOC students than for those enrolled in COL-TR programs. Parents, spouses, other relatives, other students, and social service agency personnel were sources of information cited by students in all three program areas in roughly the same proportions.

Extension Students

When extension students were similarly analyzed regarding the types of persons who influenced them most in selecting a particular institution to attend, ACAD EXT students cited friends (not students) and employers as those persons (Table 25). This pattern was true for FUND EDUC students, except that CC/TI personnel and "other" were cited by more than 10% of those students.

Occupational extension students reported friends (not students), CC/TI personnel, other students, and employers as the most influential persons. Nearly 43% of REC EXT students reported friends (not students) as their most important source of influence. This category was followed by spouses and other students as indicated by 13% of REC EXT students.

Table 25. Weighted percentage distribution of academic, fundamental education, occupational, and recreation extension students enrolled in North Carolina community colleges/technical institutes, 1974, by person who influenced student's decision to attend institution and first source of information regarding program or course in which enrolled

Variable	Extension students			
	ACAD EXT	FUND EDUC	OCCU EDUC	REC EXT
Person who influenced decision to attend institution:				
CC/TI personnel	7.9	12.9	15.7	9.4
Employer	24.9	14.0	12.6	1.9
4-yr college/university personnel	0.2	0.8	0.3	0.0
Academic high school teacher	0.3	2.0	0.4	0.0
High school coach	0.0	0.4	0.1	0.0
High school counselor	0.1	2.1	0.2	0.1
VOC high school teacher	0.0	0.8	0.9	0.5
Parent	3.6	8.8	4.6	3.5
Spouse	8.8	7.4	9.6	13.2
Other relative	6.4	6.7	7.0	8.8
Friend, not student	27.5	19.1	24.8	42.7
Student	7.3	8.8	12.1	13.2
Social service agency	4.9	5.5	2.7	0.0
Other	8.1	10.7	8.9	6.7
Total	100.0	100.0	99.9	100.0
	(491)	(514)	(1316)	(418)
First source of information regarding program or course:				
CC/TI personnel	9.4	18.3	17.9	7.9
Employer	25.1	15.1	11.0	1.1
4-yr college/university personnel	0.3	0.0	0.3	0.1
Academic high school teacher	0.2	3.2	0.4	0.5
High school coach	0.2	0.0	0.1	0.1
High school counselor	0.1	2.4	0.4	0.1
VOC high school teacher	0.2	0.9	1.3	0.0
Institutional literature	9.0	6.4	7.3	11.6
TV, radio, newspaper	11.5	6.6	14.2	19.3
Parent	1.2	1.5	1.9	3.0
Spouse	1.2	2.6	1.6	2.6
Other relative	6.0	4.5	5.5	7.3
Friend, not student	20.7	18.8	24.2	33.9
Student	9.5	13.5	11.0	12.1
Social service agency	5.3	6.1	3.0	0.4
Total	99.9	99.9	100.1	100.0
	(474)	(500)	(1280)	(418)

In terms of sources of information through which extension students first learned of their particular courses, those in ACAD EXT classes indicated employers, friends (not students), and the mass media most frequently, followed by other students, CC/TI personnel, and institutional literature (Table 25).

Fundamental education students listed most frequently friends (not students), CC/TI personnel, employers, and other students as sources of information. Occupational extension students followed this same pattern, except that the mass media also were included among the sources of information cited by more than 10% of OCCU EXT students.

More than one-third of REC EXT students identified friends (not students) as the first source of information through which they learned of recreation classes. Other important information sources listed by those students included the mass media, other students, and institutional literature.

Research Question 10

> Which students in what educational program areas are receiving financial assistance and what is the source of that aid, in terms of their demographic and socioeconomic characteristics?

Total Student Body

Tables 26 through 38 present the results of analyses of student financial support by type of student. The major financial sources for all students were regular full-time or part-time employment, students' spouse, Veterans Administration (VA) benefits, students' parents, and savings, in that order (Table 26). These were the only sources of income that served to support 10% or more of the total student body. Among curriculum students, 60% received income from regular full-time or part-time employment, 30% from VA benefits, 25% from parents, 20% from their spouse, and 18% from savings. An additional 10% reported receiving financial support from summer jobs. Extension students, in the other hand, reported only three major sources of income--regular full-time or part-time employment, their spouse, and savings.

Table 26. Weighted percentage distribution and rank of curriculum and extension students' sources of income, 1974

Source of income	Students Curriculum					
			Extension		Total	
	%	Rank	%	Rank	%	Rank
Basic Educational Opportunity Grant	3.2		0.2		1.6	
Educational loan	2.0		0.1		1.0	
MDTA	1.6		0.4		1.0	
Parents	25.0	3	5.3	6	14.6	4
Spouse	19.8	4	35.8	2	28.2	2
Other relatives	2.2		1.5	10	1.9	
Regular full-time or part-time employment	60.2	1	49.2	1	54.4	1
Savings	18.2	5	10.2	3	14.0	5
Scholarship	3.4	10	0.4		1.8	
Social Security benefits	5.0	9	8.5	4	6.8	6
Summer job	10.1	6	2.5	9	6.1	7
VA benefits	30.2	2	2.8	8	15.8	3
Vocational Rehabilitation	1.9		1.3		1.6	
Welfare agency	0.4		3.8	7	2.2	10
Work-study	5.5	7.5	1.2		3.2	9
Other	5.5	7.5	6.3	5	5.9	8
	(6930)		(2900)		(9837)	

Curriculum Students

When curriculum students' sources of income were analyzed by program area, over one-half of the students in COL-TR, TECH, and VOC programs obtained financial support from regular full-time or part-time employment (Table 27). However, COL-TR students were almost twice as likely as TECH students and nearly three times more likely than VOC students to receive financial assistance from their parents. College-transfer students also were more likely to draw upon savings, to gain summer employment, and to receive work-study assistance than were students in occupational curricula. Veterans benefits contributed financial support to students in all three program areas, but a higher percentage of TECH and VOC than COL-TR students received such aid.

Table 27. Weighted percentage distribution and rank of curriculum students' sources of income, 1974, by program area

Source of income	Curriculum students					
	COL-TR		TECH		VOC	
	%	Rank	%	Rank	%	Rank
Basic Educational Opportunity Grant	4.8	10	4.2		1.2	
Educational loan	2.4		3.0		1.1	
MDTA	0.4		0.0		5.8	7
Parents	42.2	2	27.7	3	17.6	4
Spouse	18.1	6	19.7	4	18.8	3
Other relatives	3.8		2.0		1.7	
Regular full-time or part-time employment	57.1	1	61.2	1	51.7	1
Savings	24.3	3	19.1	5	15.8	5
Scholarship	4.4		4.3	10	2.7	
Social Security benefits	7.0	8	5.5	8	4.1	9
Summer jobs	20.8	5	10.0	6	5.1	8
VA benefits	22.6	4	35.0	2	34.5	2
Vocational Rehabilitation	2.5		1.7		2.8	
Welfare agency	0.2		0.5		0.4	
Work-study	10.4	7	5.8	7	3.6	10
Other	5.5	9	4.6	9	7.6	6
	(1291)		(3721)		(1166)	

The most common type of student financial assistance programs found at educational institutions--such as Basic Educational Opportunity Grants (BEOG), educational loans, scholarships, and work-study--were not major income sources for curriculum students. Of the four, only work-study programs were consistently reported among the top 10 sources of assistance for students in the three curriculum programs. The BEOGs were ranked tenth only for COL-TR students and scholarships were ranked tenth only for TECH students. In general these financial assistance programs were reported by students to serve 5% or fewer of those enrolled in any given program, with COL-TR and TECH students more likely recipients of such aid than were VOC students.

When curriculum students' sources of income were analyzed by sex, a greater percentage of males than females had regular full-time or part-time employment and received VA benefits (Table 28). On the other hand, a greater proportion of females than males received support from their spouse and parents. Females also were more likely to have BEOGs, educational loans, scholarships, and work-study arrangements.

Table 28. Weighted percentage distribution and rank of curriculum students' sources of income, 1974, by sex

Source of income	Curriculum students			
	Male		Female	
	%	Rank	%	Rank
Basic Educational Opportunity Grant	1.6		5.8	10
Educational loan	1.2		3.4	
MDTA	1.5		1.8	
Parents	18.9	3	34.0	3
Spouse	10.0	5	34.3	2
Other relatives	1.6		3.1	
Regular full-time or part-time employment	68.6	1	46.2	1
Savings	17.2	4	19.1	4
Scholarship	1.5		6.3	9
Social Security benefits	3.3	9	7.5	8
Summer job	9.8	6	10.3	5
VA benefits	44.4	2	7.6	7
Vocational Rehabilitation	1.9	10	1.9	
Welfare agency	0.0		0.0	
Work-study	3.8	8	8.1	6
Other	6.9	7	2.7	
	(4155)		(2767)	

A greater percentage of white than nonwhite curriculum students had regular full-time or part-time employment, received aid from their parents and spouse, and drew upon savings (Table 29). Students of minority races were more likely than white students to have BEOGs, work-study assistance, Manpower Development Training Act (MDTA) funds, and Vocational Rehabilitation (VR) assistance.

Table 29. Weighted percentage distribution and rank of curriculum students' sources of income, 1974, by race

Source of income	Curriculum students			
	White		Nonwhite	
	%	Rank	%	Rank
Basic Educational Opportunity Grant	1.8	3	9.7	7
Educational loan	1.9		2.7	
MDTA	1.2		3.5	
Parents	25.7	3	20.5	3
Spouse	21.4	4	10.7	6
Other relatives	2.0		3.1	
Regular full-time or part-time employment	63.2	1	44.3	1
Savings	19.5	5	10.8	5
Scholarship	3.7	10	1.9	
Social Security benefits	4.5	8	5.7	9
Summer job	10.4	6	8.0	8
VA benefits	30.2	2	28.6	2
Vocational Rehabilitation	1.5		3.7	10
Welfare agency	0.3		1.0	
Work-study	4.0	9	11.9	4
Other	5.7	7	3.5	
	(5676)		(1240)	

Curriculum students who were over 25 years of age were more likely to be working at regular full-time or part-time jobs, receiving VA benefits, and/or being supported by their spouse than were younger students (Table 30). Major sources of income for the younger group of curriculum students included regular full-time or part-time employment (56%), parents (42%), savings (24%), VA benefits (19%), summer jobs (16%), and spouse (13%). While financial assistance programs were not major sources of support for even those younger students, persons under 26 years of age were considerably more likely to have such aid than were older curriculum students.

When sources of curriculum student income were analyzed by major occupational groups (Table 31), a greater percentage of students from white-collar households cited support by their spouse and parents than did curriculum students representing other occupational groupings. Persons from blue-collar and unskilled households were more likely to be

Table 30. Weighted percentage distribution and rank of curriculum students' sources of income, 1974, by age

Source of income	Curriculum students			
	25 years or less		Over 25 years	
	%	Rank	%	Rank
Basic Educational Opportunity Grant	4.7	10	1.2	
Educational loan	2.4		1.6	9.5
MDTA	2.0		1.0	
Parents	42.3	2	1.6	9.5
Spouse	13.1	6	28.9	3
Other relatives	3.1		1.1	
Regular full-time or part-time employment	55.5	1	66.6	1
Savings	24.4	3	9.8	4
Scholarship	5.1	9	1.2	
Social Security benefits	7.8	8	1.2	
Summer job	16.0	5	2.1	6
VA benefits	18.5	4	46.0	2
Vocational Rehabilitation	2.2		1.7	7.5
Welfare agency	0.6		0.2	
Work-study	8.2	7	1.7	7.5
Other	3.5		8.2	5
	(4565)		(2367)	

receiving VA benefits than students from either white-collar or farm households. Students whose head-of-household was in a farming occupation received the least support from their parents, spouse, or by regularly working at a full-time or part-time job. However, this occupational group had the highest percentage of students who had summer jobs, received Social Security benefits, or were awarded scholarships. Students from unskilled and farm households were more likely to receive BEOGs and to have work-study arrangements.

The lower a curriculum student's primary income, the more likely that person was receiving work-study income, Social Security benefits, BEOG or scholarship assistance, educational loans, or MDTA or VR funds (Table 32). Those with primary incomes of less than $15,000 annually represented the greatest percentage of students receiving VA benefits, while a greater proportion of students in the $7,500 or more primary income categories had regular employment. Students from upper-income as compared with lower-income groups were more likely to be receiving financial assistance from their parents and from savings.

Table 31. Weighted percentage distribution and rank of curriculum students' sources of income, 1974, by head-of-household's occupation

Curriculum student's source of income	Head-of-household occupation							
	White-collar		Blue-collar		Unskilled		Farm	
	%	Rank	%	Rank	%	Rank	%	Rank
Basic Educational Opportunity Grant	1.5		3.4		4.6	9.5	5.8	
Educational loan	1.5		1.8		3.4		2.2	
MDTA	0.5		2.2		1.9		2.3	
Parents	27.9	2	23.8	3	17.4	3	9.8	6
Spouse	23.3	4	21.5	4	14.0	5	7.1	9
Other relatives	2.1		1.5		3.2		5.8	
Regular full-time or part-time employment	65.6	1	63.8	1	66.2	1	41.2	1
Savings	19.5	5	20.1	5	15.0	4	20.5	3
Scholarship	2.4	10	4.2	8	3.5		5.9	10
Social Security benefits	4.2	8	3.6	10	6.8	8	9.6	7
Summer job	11.4	6	8.2	6	9.4	6	18.9	4
VA benefits	25.6	3	32.3	2	41.1	2	23.6	2
Vocational Rehabilitation	1.2		1.6		2.5		3.9	
Welfare agency	0.2		0.1		0.9		0.6	
Work-study	3.3	9	4.8	7	7.3	7	12.8	5
Other	5.8	7	3.8	9	4.6	9.5	8.5	8
	(2467)		(2334)		(979)		(404)	

Table 32. Weighted percentage distribution and rank of curriculum students' sources of income, 1974, by primary income

Curriculum student's source of income	Primary income					
	Less than $7,500		$7,500-$14,999		More than $15,000	
	%	Rank	%	Rank	%	Rank
Basic Educational Opportunity Grant	6.3	9	2.5		0.7	
Educational loan	3.0		1.3		0.9	
MDTA	3.6		0.7		0.4	
Parents	21.9	3	22.4	4	32.9	2
Spouse	18.1	4	22.6	3	21.8	4
Other relatives	3.0		1.3		1.2	
Regular full-time or part-time employment	53.0	1	67.2	1	67.9	1
Savings	15.7	5	18.2	5	22.7	3
Scholarship	4.8	10	3.3	8	1.5	9.5
Social Security benefits	8.9	8	2.9	10	2.0	8
Summer job	9.5	7	9.0	6	13.1	6
VA benefits	33.1	2	36.4	2	21.2	5
Vocational Rehabilitation	3.2		1.1		0.8	
Welfare agency	0.9		0.0		0.2	
Work-study	11.4	6	3.1	9	1.5	9.5
Other	4.5		5.7	7	5.6	7
	(2026)		(2814)		(1267)	

Extension Students

When sources of extension students' income were analyzed by each of the four major program areas, the sources most often cited by each group were regular full-time or part-time employment and the students' spouse (Table 33). Students in ACAD EXT programs had the highest percentage (12%) receiving Social Security benefits. Fundamental education students were the most likely to receive assistance from their parents or from VR funds, and they were the least likely to have income from regular employment. Academic extension and FUND EDUC programs had the greatest percentage of students receiving assistance from welfare agencies.

In terms of student financial assistance programs, BEOGs, educational loans, scholarships, and work-study programs provided no assistance to 99% of the extension students, regardless of the program area in which they were enrolled. Similarly, MDTA funds and VA benefits did not support extension students to the degree they were provided to curriculum students.

A greater percentage of males than females enrolled in extension programs had regular employment and received VA benefits; females relied heavily upon their spouse for support (Table 34). Females, however, were more likely than males to be receiving Social Security benefits.

A greater percentage of white than nonwhite extension students received their incomes from regular employment, their spouse, or from savings (Table 34). A small but greater proportion of nonwhite than white students received assistance from welfare agencies or VR funds.

Extension students who were less than 26 years old were more likely than older students to receive assistance from their parents, while students between 26 and 59 years of age had the highest percentage with regular employment or support from their spouse (Table 35). A majority of students who were 60 years of age or older received at least part of their income from Social Security benefits and represented a higher percentage who depended upon savings or welfare agencies than any other age group.

Table 33. Weighted percentage distribution and rank of extension students' sources of income, 1974, by program area

Extension student's source of income	Program area							
	ACAD EXT		FUND EDUC		OCCU EXT		REC EXT	
	%	Rank	%	Rank	%	Rank	%	Rank
Basic Educational Opportunity Grant	0.2		0.2		0.2		0.1	
Educational loan	0.2		0.3		0.1		0.0	
MDTA	0.0		0.3		0.7		0.1	
Parents	3.5	8	8.7	5.5	6.1	5	1.8	6
Spouse	27.9	2	23.9	2	34.4	2	59.5	1
Other relatives	1.4	9.5	3.1	10	1.3		1.0	8
Regular full-time or part-time employment	48.8	1	38.7	1	54.1	1	43.3	2
Savings	12.4	3	11.3	4	8.8	3	11.0	3
Scholarship	0.5		0.6		0.3		0.5	
Social Security benefits	12.1	4	8.7	5.5	8.1	4	5.6	4
Summer job	1.4	9.5	2.3		3.5	7	0.8	9.5
VA benefits	4.9	7	4.8	8.5	2.0	9	1.4	7
Vocational Rehabilitation	0.2		4.8	8.5	1.0		0.2	
Welfare agency	6.6	5	5.6	7	3.3	8	0.8	9.5
Work-study	0.7		1.0		1.7	10	0.2	
Other	5.7	6	19.4	3	3.7	6	4.4	5
	(513)		(528)		(1411)		(448)	

Table 34. Weighted percentage distribution and rank of extension students' sources of income, 1974, by sex and race

Source of income	Extension students							
	Males		Females		White		Nonwhite	
	%	Rank	%	Rank	%	Rank	%	Rank
Basic Educational Opportunity Grant	0.1		0.2		0.0		0.5	
Educational loan	0.2		0.1		0.0		0.3	
MDTA	1.2		0.0		0.4		0.5	
Parents	7.2	4	4.4	5	4.9	6	6.0	7
Spouse	5.1	7	48.9	1	43.4	2	20.2	2
Other relatives	1.7		1.5	9	1.1	10	2.5	10
Regular full-time or part-time employment	59.7	1	43.7	2	51.1	1	44.1	1
Savings	11.0	3	9.6	3	11.6	3	6.8	6
Scholarship	0.4		0.3		0.4		0.4	
Social Security benefits	6.0	6	9.1	4	8.4	4	7.8	4
Summer job	3.9	8	1.9	8	1.9	9	3.9	8
VA benefits	6.1	5	1.2	10	2.7	7	2.9	9
Vocational Rehabilitation	1.8	10	1.[illegible]		0.8		2.3	
Welfare agency	3.3	9	4.0	6	2.2	8	7.2	5
Work-study	1.6		1.0		0.8		2.0	
Other	11.9	2	3.5	7	5.4	5	7.9	3
	(547)		(1935)		(1885)		(1004)	

Table 35. Weighted percentage distribution and rank of extension students' sources of income, 1974, by age

Extension student's source of income	Age, yr					
	25 or less		26-59		60 or more	
	%	Rank	%	Rank	%	Rank
Basic Educational Opportunity Grant	0.5		0.0		0.0	
Educational loan	0.5		0.0		0.0	
MDTA	0.6		0.4		0.0	
Parents	14.7	3	1.6	8.5	0.8	
Spouse	27.5	2	43.4	2	15.5	4
Other relatives	1.5		1.4	10	2.6	7
Regular full-time or part-time employment	50.9	1	54.5	1	15.7	3
Savings	13.0	4	7.6	3	18.2	2
Scholarship	0.8		0.0		1.2	10
Social Security benefits	2.3	9	3.5	4.5	55.3	1
Summer job	4.7	6	1.6	8.5	2.2	9
VA benefits	3.9	7	2.3	7	2.4	8
Vocational Rehabilitation	1.7		1.0		0.4	
Welfare agency	3.5	8	2.4	6	13.4	5
Work-study	1.8	10	1.1		0.0	
Other	10.3	5	3.5	4.5	12.5	6
	(900)		(1695)		(290)	

When sources of income were analyzed by major occupational groups, students from white-collar households were more likely to draw upon savings than were other groups, while blue-collar households had the highest percentage of students with regular employment (Table 36). Those students whose head-of-household was unskilled or employed in a farm occupation were the most likely to be receiving Social Security benefits or assistance from welfare agencies. Those from farm occupations were the least likely to receive income from regular full-time or part-time employment, with less than one-third of those students reporting regular employment.

Table 37 reports extension students' sources of income by income group. The lower the students' primary income, the less they indicated their spouse, regular employment, or savings as sources of income. In addition, lower income groups reported a greater percentage of students receiving Social Security benefits or welfare agency support.

Table 36. Weighted percentage distribution and rank of extension students' sources of income, 1974, by head-of-household's occupation

Extension student's source of income	Head-of-household occupation							
	White-collar		Blue-collar		Unskilled		Farm	
	%	Rank	%	Rank	%	Rank	%	Rank
Basic Educational Opportunity Grant	0.0		0.2		0.3		0.2	
Educational loan	0.1		0.1		0.1		0.1	
MDTA	0.0		0.6		0.4		0.0	
Parents	5.1	5	7.0	4	5.6	6	5.1	8
Spouse	44.8	2	37.5	2	26.0	2	42.4	1
Other relatives	1.0	9	1.0		2.4		2.4	9
Regular full-time or part-time employment	57.3	1	60.4	1	55.4	1	32.5	2
Savings	13.5	3	9.5	3	8.4	4	10.2	5
Scholarship	0.4		0.6		0.1		0.1	
Social Security benefits	6.4	4	4.1	5	12.8	3	11.0	4
Summer job	2.5	7	1.9	8	3.2	9	8.4	7
VA benefits	2.0	8	3.1	7	4.2	8	0.6	
Vocational Rehabilitation	0.5		0.4		2.6	10	1.9	
Welfare agency	0.6		1.2	9.5	8.1	5	8.6	6
Work-study	0.9	10	1.2	9.5	1.8		2.2	10
Other	4.8	6	3.6	6	4.4	7	17.4	3
	(875)		(864)		(443)		(188)	

Table 37. Weighted percentage distribution and rank of extension students' sources of income, 1974, by primary income

Source of income	Primary income Less than $7,500 %	 Rank	 $7,500-$14,999 %	 Rank	 $15,000 or more %	 Rank
Basic Educational Opportunity Grant	0.2		0.1		0.2	
Educational loan	0.2		0.2		0.0	
MDTA	0.6		0.3		0.0	
Parents	5.0	6	5.4	4	5.7	4
Spouse	25.8	2	46.7	2	55.1	2
Other relatives	1.9		0.9	10	0.4	
Regular full-time or part-time employment	49.8	1	60.5	1	65.4	1
Savings	9.9	4	11.6	3	15.0	3
Scholarship	0.7		0.1		0.4	
Social Security benefits	14.3	3	2.5	6.5	2.3	6
Summer job	3.3	9	2.5	6.5	2.1	7
VA benefits	4.9	7	2.3	8	1.4	8
Vocational Rehabilitation	1.9		0.2		0.7	9
Welfare agency	5.8	5	0.3		0.4	
Work-study	2.3	10	1.0	9	0.2	
Other	4.3	8	3.7	5	5.0	5
	(1022)		(820)		(351)	

Research Question 11

Which students in what educational program areas are employed and to what extent?

Total Student Body

At the time these research data were collected, over 65% of all CC/TI students were employed, with nearly 48% employed full time and 18 percent part time (Table 38). Of those who were employed, 63% indicated they were working 40 or more hours per week. Seventeen percent of all students reported they were unemployed, 13% said they were keeping house, and 4% were retired.

Table 38. Weighted percentage distribution of curriculum and extension students enrolled in North Carolina community colleges/technical institutes, 1974, by employment status and hours per week worked

Variable	Students		
	Curriculum	Extension	Total
Employment status:			
Full time	45.5	49.5	47.6
Part time	25.3	11.2	18.0
Keep house	5.5	20.3	13.2
Retired	2.0	5.8	3.8
Unemployed	21.7	13.1	17.3
Total	100.0	100.0	100.0
	(6805)	(2745)	(9550)
If employed, hours per week student works:			
Less than 5	2.0	0.5	1.3
5-9	4.8	4.4	4.6
10-19	12.0	4.8	8.6
20-29	12.8	6.3	9.7
30-39	11.1	14.3	12.6
40-44	38.0	47.5	42.5
45-49	9.6	8.1	8.9
More than 49	9.6	14.1	11.7
Total	99.9	100.0	99.9
	(4421)	(1578)	(5999)

Curriculum Students

Among curriculum students, 45% were employed full time, 25% were working part time, and 22% were unemployed (Table 39). Of those who were working, 57% spent 40 or more hours per week on the job and 36% worked between 10 and 39 hours.

Technical and VOC students were more likely to be employed full time, with 43% of each group so doing as compared with 28% of COL-TR students. Conversely, a larger proportion of COL-TR students than career program students reported that they were working part time. Those indicating that they were unemployed ranged from 23% for TECH students to 28% for VOC students. Of the employed COL-TR students, two-thirds worked less than 40 hours a week; the remaining one-third worked 40 or more hours per week. Among employed

TECH students, 43% worked less than 40 hours per week and 57% had weekly working hours of 40 or more. Corresponding work schedules for VOC students were 37% and 63%, respectively. Although VOC students were more likely to be retired than any other group of curriculum students; retirees comprised less than 4% of the VOC program student body.

Table 39. Weighted percentage distribution of college-transfer, technical, and vocational students enrolled in North Carolina community colleges/technical institutes, 1974, by employment status and hours per week worked

Variable	Curriculum students		
	COL-TR	TECH	VOC
Employment status:			
Full time	28.3	43.2	42.8
Part time	40.6	26.7	20.2
Keep house	5.1	5.3	6.0
Retired	1.0	2.0	3.4
Unemployed	25.1	22.8	27.6
Total	100.1	100.0	100.0
	(1269)	(3668)	(1126)
If employed, hours per week student works:			
Less than 5	4.4	1.6	1.6
5-9	8.3	4.6	5.5
10-19	23.5	12.9	9.0
20-29	19.0	13.8	10.4
30-39	13.9	10.0	11.0
40-44	20.8	37.3	43.0
45-49	5.2	10.1	10.3
More than 49	5.0	9.7	9.3
Total	100.1	100.0	100.1
	(829)	(2342)	(679)

Extension Students

Among extension students, about half were employed full time, 20% were keeping house, 13% were unemployed, and 11% were employed part time (Table 40). Of those with jobs, 30% worked less than 40 hours, 48% worked between 40 and 44 hours, and 22% worked 45 or more hours each week.

Table 40. Weighted percentage distribution of academic, fundamental education, occupational, and recreation extension students enrolled in North Carolina community colleges/technical institutes, 1974, by employment status and hours per week worked

Variable	Extension students			
	ACAD EXT	FUND EDUC	OCCU EXT	REC EXT
Employment status:				
Full time	54.8	37.4	53.2	42.3
Part time	7.3	7.6	13.7	10.7
Keep house	20.2	10.8	18.1	36.0
Retired	12.1	3.7	4.5	4.6
Unemployed	5.6	40.4	10.5	6.3
Total	100.0	99.9	100.0	99.9
	(492)	(512)	(1316)	(425)
If employed, hours per week student works:				
Less than 5	0.4	1.4	0.5	0.5
5-9	3.3	4.1	5.5	1.6
10-19	2.4	4.7	5.2	6.5
20-29	4.2	5.9	7.1	6.1
30-39	9.9	21.6	13.6	17.5
40-44	35.0	46.4	52.3	46.7
45-49	8.4	9.6	6.6	13.3
More than 49	36.5	6.4	9.3	7.8
Total	100.1	100.1	100.1	100.0
	(295)	(224)	(841)	(218)

Academic and OCCU EXT programs had the highest percentage of students employed full time, while FUND EDUC students were the least likely to be employed. Occupational extension and REC EXT programs had the largest percentage of students employed part time. Recreation extension students were more likely to be keeping house than students in other extension program areas; more than one-third were in that category. Twelve percent of the ACAD EXT students indicated they were retired. The largest percentage of unemployed students in any program were in FUND EDUC; over 40% were unemployed.

Of the extension students who were employed, a majority in each program area worked 30 to 44 hours per week, with the exception of ACAD EXT students, 37% of whom worked 50 or more hours per week.

When curriculum and extension students were compared, the former were more likely to have part-time jobs or to be unemployed than were the latter, who were more certain to be keeping house. Both program areas had similar percentages of students who were employed full time and who were retired. With regard to number of hours per week worked by students, curriculum students were more likely than extension students to work at jobs less than 30 hours per week. Extension programs had a greater percentage of students who worked 30-44 hours per week than curriculum programs, but both were likely to have about the same proportion of students who worked 50 or more hours weekly.

Research Question 12

Which students in what educational program areas plan to work toward a four-year degree?

Curriculum Students

Almost 40% of all curriculum students surveyed had either definite or probable plans to work toward a four-year college degree (Table 41). Included in that group were 90% of COL-TR, 32% of TECH, and 15% of VOC students. More than one-fourth of the total curriculum student body were uncertain about their further education plans, with the largest percentages in that category found among TECH (33%) and VOC (32%) students.

Table 41. Weighted percentage distribution of college-transfer, technical, vocational, and total curriculum students enrolled in North Carolina community colleges/technical institutes, 1974, by plans to work toward a four-year college degree

Plans to work toward four-year college degree	Curriculum students			
	COL-TR	TECH	VOC	Total
Definitely yes	73.5	13.0	7.2	23.6
Thinks so	15.2	19.0	8.5	16.4
Undecided	7.6	32.9	32.0	27.2
Thinks not	2.7	21.6	25.5	18.5
Definitely no	1.0	13.6	26.9	14.3
Total	100.0	100.1	100.1	100.0
	(1205)	(3364)	(952)	(6079)

Only one-third of all curriculum students stated they had probable or definite plans not to work toward a four-year degree (Table 41). Of these, VOC programs had the highest percentage, with over one-half of those students so indicating. Technical programs followed next, with 35% of the students not planning to transfer. Less than 4% of the COL-TR students planned not to work toward their baccalaureate.

Extension Students

While extension students were not asked directly if they planned to earn a bachelor's degree, they did indicate whether or not they planned to enter that or some other educational institution in a credit program at a later date. Over one-third of all extension students reported they planned to enter a credit program (Table 42). The extension program with the largest percentage of students so indicating was FUND EDUC, with 50%; followed by ACAD EXT, 40%; OCCU EXT, 34%; and REC EXT, 31%.

Table 42. Weighted percentage distribution of academic, fundamental education, occupation, recreation, and total extension students enrolled in North Carolina community colleges/technical institutes, 1974, by plans to enter a credit program

Plans to enter credit program	Extension students				
	ACAD EXT	FUND EDUC	OCCU EXT	REC EXT	Total
Yes	39.8	50.1	33.6	30.6	36.6
No	60.2	49.9	66.4	69.4	63.4
Total	100.0	100.0	100.0	100.0	100.0
	(433)	(472)	(1209)	(399)	(2513)

Research Question 13

Which students in what educational program areas plan to work in North Carolina following the completion of their formal education?

Of the total curriculum student body, 69% indicated that they had definite or probable plans to be employed in North Carolina after the completion of their formal education (Table 43). Among the three major curriculum program areas, TECH and VOC programs had the highest percentages (71% each) of students who stated they planned to work within the State; 57% of the COL-TR students indicated similar plans.

College-transfer students tended to be the most uncertain of all curriculum students with regard to their employment plans. One-third reported they did not know if they would be employed in North Carolina, compared to 20% for TECH and 17% for VOC students.

Ten percent of all curriculum students indicated they had probable or definite plans not to work in North Carolina after completing their education. All three curriculum programs studied had about the same percentage of students with such plans.

Table 43. Weighted percentage distribution of college-transfer, technical, vocational, and total curriculum students enrolled in North Carolina community colleges/technical institutes, 1974, by plans to work in North Carolina and plans other than North Carolina employment

Work plans	Curriculum students			
	COL-TR	TECH	VOC	Total
Plans to work in North Carolina:				
Definitely yes	31.9	45.3	46.0	43.8
Thinks so	25.3	26.0	25.9	25.7
Uncertain	32.8	19.7	16.8	21.0
Thinks not	4.5	4.8	4.5	4.5
Definitely not	5.6	4.2	6.9	5.0
Total	100.1	100.0	100.1	100.0
	(1197)	(3352)	(957)	(6069)
If no North Carolina employment plans, other plans:				
Enter military service	2.3	3.5	4.4	3.6
Marriage/keeping house	1.9	4.5	7.2	5.8
Work in another state	81.0	85.6	65.8	77.1
Other	14.8	6.4	22.6	13.5
Total	100.0	100.0	100.0	100.0
	(125)	(321)	(84)	(574)

Of the curriculum students who planned not to be employed in North Carolina, more than three-fourths indicated they planned to work in another state, 14% reported "other" plans, less than 6% contemplated marriage or keeping house rather than employment in the State, and about 4% planned to enter the military service (Table 43).

Part II: Hypothesis Testing

Four hypotheses were structured for testing in this study. The focus of these tests was on positive relationships between (1) the socioeconomic status characteristics of students and educational program area of selection; (2) measures of student academic ability and educational program area of selection; (3) measures of student academic ability and educational program area of selection, when students' socioeconomic status characteristics were controlled; and (4) socioeconomic status characteristics of students and measures of academic ability and program area of selection when demographic variables were controlled.

Hypothesis I

> There is a positive relationship between the socioeconomic status characteristics of students (primary income, head-of-household's occupation, parents' income, student's income, father's education, mother's education, and student's education) and educational program area of selection.

Gamma (G) coefficients were calculated to determine the strength of relationship between each of the socioeconomic status characteristic variables (X_i) and educational program area of selection (Y). Subsequently, tests for association were conducted to provide a measure of confidence that each of these relationships did not occur by chance.

The results of these tests revealed that all but one of the relationships hypothesized were statistically significant (.01 level) and in the direction predicted (Table 44). Of the seven socioeconomic variables, student's income (X_4) was neither positively correlated with education program area nor statistically significant when direction was taken into account. Based on the evidence at hand, the null hypothesis of no positive relationships between the two variables is not rejected. For the remaining independent variables, however, hypothesis I is tentatively accepted, pending further analysis.

Table 44. Gamma coefficients and hypothesis tests of association between socioeconomic characteristic variables (X_i) and academic ability variables (Z_i) on the educational program area of selection (Y)

Variable	G coefficient	Z for H_o:G=0	Prob > +Z	Weighted N
Primary income (X_1)	0.18	3.32	0.0005	1619
Head-of-household's occupation (X_2)	0.17	2.99	0.0014	1616
Parents' income (X_3)	0.18	3.97	0.0001	1487
Student's income (X_4)	-0.10	-1.95	0.9744	1723
Father's education (X_5)	0.25	5.17	0.0001	1788
Mother's education (X_6)	0.22	4.46	0.0001	1797
Student's education (X_7)	0.46	8.99	0.0001	1819
High school average (Z_1)	0.13	2.30	0.0107	1776
High school rank (Z_2)	0.18	2.90	0.0019	1576

Student's education (X_7) was the most strongly related independent variable, yielding a G = 0.46, which indicated that almost half of the variability of the dependent variable, educational program area of selection (Y), could be explained by an understanding of students' educational levels. The weakest relationship was that where the head-of-household's occupation (X_2) was used to explain the dependent variable, with G = 0.17.

Due to the limited application of G, zero-order Pearson product-moment correlation coefficients (r) were computed on the same sets of variables to determine if the two tests would yield similar results. The results of the latter test indicated essentially the same relationships between socioeconomic variables and educational program area of selection (Table 45). As with the use of G, student's education (X_7) was the most strongly associated independent variable, with r=0.19; head-of-household's occupation (X_2) was the least strongly related (r=0.04). Again, student's income (X_4) was negatively associated rather than in the direction predicted.

Table 45. Zero-order Pearson product-moment correlation coefficient matrix between socioeconomic characteristic variables (X_i), academic ability variables (Z_i), and educational program area of enrollment (Y) (N=4482)

Variable	X_1	X_2	X_3	X_4	X_5	X_6	X_7	Z_1	Z_2	Y
Primary income (X_1)	--	0.32	0.56	0.26	0.18	0.18	0.14	0.06	0.07	0.10
Head-of-household occupation (X_2)		--	0.22	0.09	0.20	0.17	0.11	0.04	0.04	0.04
Parents' income (X_3)			--	-0.06	0.42	0.42	0.14	0.07	0.13	0.12
Student's income (X_4)				--	-0.18	-0.19	0.01	-0.13	-0.18	-0.11
Father's education (X_5)					--	0.58	0.18	0.07	0.14	0.15
Mother's education (X_6)						--	0.17	0.06	0.14	0.14
Student's education (X_7)							--	0.14	0.23	0.19
High school average (Z_1)								--	0.56	0.06
High school rank (Z_2)									--	0.14
Educational program area of selection (Y)										--

Since the two tests produced similar results, and for reasons previously discussed, it was decided to proceed with the further use of more sophisticated parametric tests, even though the assumptions underlying the parametric model were violated.

Further analysis was made to determine if there were intercorrelations within the socioeconomic variables that might indicate that two or more of these variables were accounting for the same variation in the dependent variable. The coefficients for these intercorrelations (Table 45) indicated that statistical interaction was present. Highly intercorrelated were mother's education (X_6) and father's education (X_5), and each with parents' income (X_3). Since these intercorrelations existed, it became desirable to determine the relative influence of each socioeconomic variable on the dependent variable when the effects of all other socioeconomic variables were accounted for and when all independent variables were operating simultaneously. To those ends, multiple regression techniques were employed.

When all socioeconomic variables were tested simultaneously with program area of selection, a significant (.01 level) but relatively weak relationship was revealed (Table 46). Generating an $R^2=0.081$, the test indicated that socioeconomic characteristics[1] accounted for only about 8% of the variability in educational program area selection (Y). The remaining 92% variation was unaccounted for.

Table 46. Summary of analysis of variance with associated F-value and coefficient of multiple determination for education program area of selection and the independent socioeconomic variables (N=4482)

Source	df	SS	F-value	Prob >F	R^2
Regression model	8	141.036	49.261	0.0001	0.081
Residual	4473	1600.789			
Corrected total	4481	1741.825			

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[1] $\sum_{i=1}^{7} X_i$.

Analysis of variance was conducted to determine the intercorrelational effect between race and other socioeconomic variables in accounting for the variation in the dependent variable (Table 47). The effects of race (D_3), parents' income (X_3), father's education (X_5), and mother's education (X_6) were considerably reduced when all other socioeconomic variables were taken into account.

Table 47. Results of analysis of variance with associated F-values for educational program area of selection and the independent socioeconomic variables (N=4482)

Source	df	Seq SS	Partial SS	F-value	Prob >F
Race (D_3)	1	32.601	16.018	44.759	0.0001
Primary income (X_1)	1	7.542	10.623	29.682	0.0001
Head-of-household's occupation (X_2)	1	0.042	1.512	4.224	0.0399
Parents' income (X_3)	1	6.546	0.898	2.508	0.1133
Student's income (X_4)	1	29.750	23.714	66.262	0.0001
Father's education (X_5)	1	11.960	2.126	5.940	0.0148
Mother's education (X_6)	1	4.703	2.961	8.274	0.0040
Student's education (X_7)	1	47.892	47.892	133.821	0.0001

To determine the extent to which the relationship between each socioeconomic variable and educational program area of selection was altered by holding all other variables constant, regression coefficients (B-values) were generated, tested for significance (t-test), and standardized (Std B-values) for comparison. The data in Table 47 indicate that in addition to student's income (X_4), not found earlier to be positively associated, head-of-household's occupation (X_2) and parents' income (X_3) were no longer positively correlated with educational program area of selection (Y) when other socioeconomic variables (D_3, X_1, X_5, X_6, X_7) were taken into account. Apparently, the original positive correlations found for these variables were the products of intercorrelations with other socioeconomic variables rather than an independent association with the dependent variables. When the standardized regression coefficients were compared, student's education (X_7) continued to be the most strongly related, with a Std $B_{X_5}=0.045$ and Std $B_{X_6}=0.053$ due to intercorrelations (Table 48).

The evidence generated from this analysis required that the previous conclusion regarding hypothesis I be modified. The null hypothesis of no positive relationship between socioeconomic status characteristics and educational program area of selection is not rejected for head-of-household's occupation (X_2), parents' income (X_3), and student's income (X_4). The null hypothesis is rejected and the alternative hypothesis that there is a positive relationship between socioeconomic status characteristics and educational program area of selection is accepted for primary income (X_1), father's education (X_5), mother's education (X_6), and student's education (X_7).

Table 48. Multiple regression with associated regression coefficients and statistics of FIT for educational program area of selection and the independent socioeconomic variables (N=4482)

Source	B-value	T for H_0:B=0	Prob > +T	Std B-value
Intercept	1.344	25.315	0.0001	0.000
Primary income (X_1)	0.019	5.448	0.0001	0.104
Head-of-household's occupation (X_2)	-0.007	-2.055	0.9880	-0.031
Parents' income (X_3)	-0.005	-1.584	0.9434	-0.031
Student's income (X_4)	-0.019	-8.140	0.9999	-0.128
Father's education (X_5)	0.015	2.437	0.0074	0.045
Mother's education (X_6)	0.021	2.876	0.0020	0.053
Student's education (X_7)	0.121	11.568	0.0001	0.170

Hypothesis II

> There is a positive relationship between measures of student academic ability (high school average and high school rank) and educational program area of selection.

Following the same procedure employed in testing hypothesis I, G-coefficients and tests for association were calculated between each of the measures of academic ability (Z_1) and educational program area of selection (Y) and are reported in Table 44.

Both independent variables were found to be correlated when tested separately with educational program area of selection in the direction predicted, with high school rank (Z_2) having the strongest relationship ($G=0.18$).

Subsequent tests for significance at the .01 level indicated that the observed positive relationships between high school average and high school rank--the two measures of student academic ability--and educational program area of selection did not occur by chance. Thus the null hypothesis of no positive relationship is rejected in favor of hypothesis II, subject to further analysis.

As in the case of hypothesis I, zero-order Pearson product-moment correlation coefficients were calculated, demonstrating similar results as were obtained with G (Table 45). Hence, further analyses using parametric techniques proceeded as in testing hypothesis I.

Intercorrelational analysis yielded an $r=0.56$ between high school average (Z_1) and high school rank (Z_2), which necessitated further study of the relative influence of each measure of academic ability on the dependent variable, educational program area of selection, when the effects of the other were accounted for and when both were operating simultaneously.

When both measures of academic ability were considered together in their association with educational program area of selection, a significant (.01 level) relationship was found which yielded an $R^2=0.022$, accounting for about 2% of the variation in the dependent variables (Table 49).

The intercorrelational effects between high school average (Z_1) and high school rank (Z_2) were studied through analysis of variance, the results of which appear in Table 50. Nearly all of the variation accounted for by high school average (Z_1) alone was eliminated when controlling for high school rank (Z_2), generating an F-value that was not statistically significant at either the .01 or the .05 level. Examination of the regression coefficient and its test for significance further confirmed this finding (Table 51).

Table 49. Summary of analysis of variance with associated F-value and coefficient of multiple determination for educational program area of selection and the independent academic ability variables (N=4482)

Source	DF	SS	F-value	Prob >F	R^2
Regression model	2	37.707	49.554	0.0001	0.022
Residual	4479	1704.118			
Corrected total	4481	1741.825			

Table 50. Analysis of variance with associated F-values for educational program area of selection and the independent academic ability variables (N=4482)

Source	df	Seq SS	Partial SS	F-value	Prob >F
High school average (Z_1)	1	6.904	0.808	2.125	0.1450
High school rank (Z_2)	1	30.804	30.804	80.962	0.0001

Table 51. Multiple regression with associated regression coefficients and statistics of FIT for educational program area of selection and the independent academic ability variables (N=4482)

Source	B-value	T for H_0:B=0	Prob > +T	Std B-value
Intercept	1.867	50.238	0.0001	0.000
High school average (Z_1)	-0.022	-1.458	0.9275	-0.026
High school rank (Z_2)	0.118	8.998	0.0001	0.160

Based on the evidence generated through multiple regression and analysis of variance, the null hypothesis regarding high school average (Z_1) could not be rejected and the previous conclusion regarding hypothesis II was modified accordingly. However, the null hypothesis respective to high school rank (Z_2) is rejected and the alternative hypothesis that there is a positive relationship between high school rank (Z_2) and educational program area of selection (Y) is accepted.

Hypothesis III

> There is a positive relationship between measures of academic ability (high school average and high school rank) and educational program area of selection when socioeconomic status characteristics of students (primary income, head-of-household's occupation, parents' income, student's income, father's education, mother's education, and student's education) are controlled.

Hypothesis III predicts that the relationship between measures of academic ability[2] and program area of selection (Y) was not a secondary product of a primary relationship between socioeconomic status characteristics and measures of academic ability (Z_i). Since intercorrelations between socioeconomic status characteristics and measures of academic ability were detected (Table 45), it became necessary to determine the relative influence of each measure of academic ability on the dependent variable when the effects of socioeconomic variables were accounted for and when all independent variables were operating simultaneously.

When all socioeconomic and academic ability variables were tested simultaneously with educational program area of selection, a significant (.01 level) relationship was revealed (Table 52). However, the amount of variation in the dependent variable, explained by the addition of academic ability variables (R^2=0.087), increased only slightly over the amount already explained by knowledge of socioeconomic variables (R^2=0.081).

To determine the degree to which interaction was taking place between the socioeconomic and academic ability variables, analysis of variance was performed and the results are reported in Table 53. As may be seen through comparing the sequential sum of squares with the partial sum of squares for high school rank (Z_2), a considerable amount of the variation previously accounted for by high school rank was lost when socioeconomic variables were controlled.

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[2] $\sum_{i=1}^{2} Z_i$.

Table 52. Summary of analysis of variance with associated F-value and coefficient of multiple determination for educational program area of selection and independent socioeconomic and academic ability variables (N=4482)

Source	df	SS	F-value	Prob >F	R^2
Regression model	10	151.180	42.494	0.0001	0.087
Residual	4471	1590.645			
Corrected total	4481	1741.825			

Table 53. Analysis of variance with associated F-values for educational program area of selection and independent socioeconomic and academic ability variables (N=4482)

Source	df	Seq SS	Partial SS	F-value	Prob >F
High school average (Z_1)	1	6.904	1.757	4.939	0.0263
High school rank (Z_2)	1	30.804	9.975	28.038	0.0001
Race (D_3)	1	31.339	16.884	47.458	0.0001
Primary income (X_1)	1	5.527	9.539	26.813	0.0001
Head-of-household's occupation (X_2)	1	0.074	1.396	3.924	0.0477
Parents' income (X_3)	1	3.556	1.133	3.184	0.0744
Student's income (X_4)	1	21.008	18.710	52.590	0.0001
Father's education (X_5)	1	10.730	2.218	6.233	0.0126
Mother's education (X_6)	1	3.692	2.486	6.988	0.0082
Student's education (X_7)	1	37.547	37.547	105.538	0.0001

Reference to the regression coefficient for high school rank and its test of significance (Table 54) indicated that, while interaction with socioeconomic variables had occurred, the relationship with educational program area of selection was still statistically significant (.01 level), although the strength of the relationships was greatly diminished. All other relationships remained essentially unchanged.

Table 54. Multiple regression with associated regression coefficients and statistics of FIT for educational program area of selection and the independent socioeconomic and academic ability variables (N=4482)

Source	B-value	T for H_0:B=0	Prob > $\pm$T	Std B-value
Intercept	1.346	22.200	0.0000	0.000
High school average (Z_1)	-0.033	-2.222	0.9868	-0.038
High school rank (Z_2)	0.069	5.295	0.0001	0 094
Primary income (X_1)	0.018	5.178	0.0001	0.099
Head-of-household's occupation (X_2)	-0.007	-1.981	0.9761	-0.030
Parents' income (X_3)	-0.006	-1.784	0.9628	-0.035
Student's income (X_4)	-0.017	-7.252	0.9999	-0.116
Father's education (X_5)	0.016	2.497	0.0063	0.046
Mother's education (X_6)	0.019	2.644	0.0041	0.048
Student's education (X_7)	0.110	10.273	0.0001	0.154

Again, the null hypothesis regarding high school average (Z_1) is not rejected, while the null hypothesis for high school rank (Z_2) is rejected. There was a positive relationship between high school rank and educational program area of selection (Y), when socioeconomic status characteristics[3] were controlled.

Hypothesis IV

> There is a positive relationship between socioeconomic status characteristics of students and measures of academic ability (primary income, head-of-household's occupation, parents' income, student's income, father's education, mother's education, high school average, and high school rank) and educational program area of selection, when demographic variables (age and sex) are controlled.

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[3] $D_3, \sum_{i=1}^{7} X_i$.

Hypothesis IV predicts that the relationships of socioeconomic status characteristics and measures of academic ability will be maintained with educational program area of selection (Y), even when two demographic variables[4] are taken into account. The introduction of demographic variables added insignificantly to the amount of variation in the dependent variables which was previously accounted for (Table 55). When analysis of variance was employed (Table 56), neither the socioeconomic nor the academic ability variables experienced any important reduction in the amount of variation accounted for in the dependent variable, while the two demographic variables proved not to be statistically significant at either the .01 or the .05 level, when all other variables were controlled. Similarly, analysis conducted with multiple regression indicated no change in direction, significance, or relative strength of relationship of the socioeconomic and academic ability variables with educational program area of selection (Table 57).

Based on this evidence, the null hypothesis of no positive relationship again is not rejected relative to head-of-household's occupation (X_2), parents' income (X_3), student's income (X_4), and high school average (Z_1). The null hypothesis for the remaining socioeconomic (X_1, X_5, X_6, X_7) and academic ability (Z_2) variables again is rejected and the alternative hypothesis of a positive relationship between these five variables and educational program area of selection (Y) when controlling for the demographic variables of age (D_1) and sex (D_2) is accepted.

In terms of the foregoing analyses relative to the strength and nature of the overall set of relationships, socioeconomic variables accounted for the greatest portion of the explained variability in the dependent variable, with student's education, race, and primary income, respectively, making the greatest contributions. High school rank, which was independently related to educational program area of selection, accounted for relatively little of the variability of the dependent variable, but did account for more than the two remaining socioeconomic variables--mother's education and father's education, which contributed least. The multiple impact of all independent variables simultaneously represented a relatively weak relationship, accounting for less than 10% of the total variability in the dependent variables.

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[4] $\sum_{i=1}^{2} D_i$.

Table 55. Summary of analysis of variance with associated F-value and coefficient of multiple determination for educational program area of selection and the independent socioeconomic, academic ability, and demographic variables (N=4482)

Source	df	SS	F-value	Prob >F	R^2
Regression model	12	151.878	35.575	0.0001	0.087
Residual	4469	1589.947			
Corrected total	4481	1741.825			

Table 56. Analysis of variance with associated F-values for educational program area of selection and the independent socioeconomic, academic ability, and demographic variables (N=4482)

Source	df	Seq. SS	Partial SS	F-value	Prob >F
Age (D_1)	1	21.685	0.279	0.784	0.3761
Sex (D_2)	1	0.000	0.468	1.315	0.2515
Race (D_3)	1	31.149	16.791	47.197	0.0001
Primary income (X_1)	1	8.341	9.239	25.969	0.0001
Head-of-household's occupation (X_2)	1	0.009	1.318	3.706	0.0543
Parents' income (X_3)	1	1.480	1.358	3.818	0.0508
Student's income (X_4)	1	13.853	8.344	23.452	0.0001
Father's education (X_5)	1	11.931	2.216	6.227	0.0126
Mother's education (X_6)	1	4.703	2.429	6.829	0.0090
Student's education (X_7)	1	49.110	37.303	104.850	0.0001
High school average (Z_1)	1	0.156	1.412	3.970	0.0464
High school rank (Z_2)	1	9.459	9.459	26.588	0.0001

Table 57. Multiple regression with associated regression coefficients and statistics of FIT for educational program area of selection and the independent socioeconomic, academic ability, and demographic variables (N=4482)

Source	B-value	T for H_0:B=0	Prob > +T	Std B-value
Intercept	1.359	20.303	0.0000	0.000
Age (D_1)	-0.007	-0.885	0.1880	-0.019
Primary income (X_1)	0.018	5.096	0.0001	0.098
Head-of-household's occupation (X_2)	-0.007	-1.925	0.9723	-0.030
Parents' income (X_3)	-0.007	-1.954	0.9742	-0.039
Student's income (X_4)	-0.016	-4.843	0.9999	-0.106
Father's education (X_5)	0.016	2.495	0.0062	0.046
Mother's education (X_6)	0.019	2.613	0.0004	0.048
Student's education (X_7)	0.112	10.240	0.0001	0.157
High school average (Z_1)	-0.030	-1.992	0.9768	-0.035
High school rank (Z_2)	0.068	5.156	0.0001	0.093

Summary of Results

The sections that follow summarize the answers to the 13 research questions and the findings from testing the 4 hypotheses, in that order.

Research Question 1

> Who are the students being served by the North Carolina Community College System in terms of their demographic, socioeconomic, academic, and attendance characteristics?

The "Typical" Community College/Technical Institute Student

1. The "typical" student enrolled in a CC/TI was most likely white, either male or female with almost equal

probability, and about 28 years old. He/she was married, lived with his/her spouse and/or children, and was a resident of both North Carolina and the county in which the institution he/she attended is located. He/she probably was not a military veteran.

2. This "typical" student tended to have an annual income of about $6,700 and most likely was a high school graduate, perhaps with some postsecondary education. His/her parents probably had an annual income of almost $10,000, but generally had not completed high school, and the mother tended to have more formal education than the father. Chances were that the student's head-of-household was either a blue-collar or white-collar worker.

3. Academically, this student probably maintained a "B" average in high school, graduated in the middle or upper one-third of his/her high school class from a general high school curriculum, and had not been previously enrolled full-time at a four-year college/university.

4. In terms of attendance at the CC/TI, this student was enrolled in either a curriculum or extension program with equal probability. If in a curriculum program, he/she was likely to be a TECH student; if an extension student, chances were best that he/she was attending OCCU EXT classes. Typically, this person was a part-time student, spending 10 or fewer hours in 1 or 2 classes per week, during either the day or the evening.

The "Typical" Curriculum Student

1. The "typical" curriculum student would most likely be characterized as a white male, 24 years old, and not a military veteran. Chances were almost equal that he was either single or married and lived with his parents or spouse and/or children. He very likely was both a resident of North Carolina and the county where he attended the CC/TI.

2. His annual income was probably $6,000, and he was at least a high school graduate. His parents' annual income was close to $10,500, even though they were high school graduates or less. His mother very likely had more formal education than his father. The head of his household was likely to be either a white-collar or a blue-collar worker.

3. Academically, the "typical" curriculum student probably graduated from a general or college-preparatory high school curriculum in the middle third of his class with a "B" average. It was most unlikely that he was ever a full-time student at a four-year college/university.

4. Probabilities were greatest that he was enrolled in a TECH program during the day, taking 3 or 4 courses, and spending 11-15 hours/week in class.

The "Typical" Extension Student

1. In terms of demographic characteristics, the "typical" extension student was a white female, 36 years old, married, and living with her spouse and/or children. She was a resident of both North Carolina and the county in which the CC/TI she attended is located. She was not a military veteran.

2. Socioeconomically, she and her husband had an annual income of about $7,500, while her parents' income was approximately $9,000. She was most likely either a high school graduate or had some high school training, even though her parents had little, if any, secondary education. The head of her household might have held one of any number of white-collar jobs, but probably was not employed in any of the unskilled or agricultural occupations.

3. Academically, in high school this "typical" extension student probably was enrolled in a general curriculum, maintained a "B" average, and graduated in the middle or top one-third of her class. Chances are she was never enrolled as a full-time student at a four-year college/university.

4. In terms of her attendance characteristics, this student was most likely enrolled in a single OCCU EXT course for five or fewer hours per week during the evening. Chances are about equal that she may/may not have previously enrolled in other extension courses.

Research Question 2

> Which students are enrolling in what educational program areas (college-transfer, technical, vocational, academic extension, fundamental education, occupational extension, and recreation extension) in terms of their demographic, socioeconomic, academic, and attendance characteristics?

The "Typical" College-Transfer Student

1. The "typical" COL-TR student was generally a white male, 21 or 22 years of age, single, and living with his parents. Very likely he was both a resident of North Carolina and the county in which the community college he attended is located. He probably was not a military veteran.

2. This student's annual income tended to be less than $3,500; that of his parents, about $12,000. He had some postsecondary education and his parents, if not high school graduates, probably had at least some high school training. His head-of-household probably held a position in one of the white-collar or blue-collar occupations.

3. In terms of academic characteristics, the "typical" COL-TR student most likely was graduated in the middle or upper one-third of his high school class and maintained a "B" average while enrolled in a college-preparatory curriculum. Chances were he never attended a four-year college/university full time, although he was more likely to have done so than were students in other curriculum programs at the CC.

4. This "typical" COL-TR student was registered for 3 or 4 courses and attended classes during the day for 11-15 hours/week.

The "Typical" Technical Student

1. The demographic characteristics that best typify the TECH student are that he was a 24-year-old white male who, with nearly equal probability, was married or single and lived with either his spouse and/or children or his parents. A resident of North Carolina and of the county in which his CC/TI is located, he probably was not a military veteran.

2. The "typical" TECH student had an annual income of almost $6,000 and was a high school graduate, perhaps with some additional postsecondary training. His parents probably had some high school education and might have been high school graduates, with an annual income of about $10,000. His head-of-household may have been employed in any one of the white-collar or blue-collar occupations.

3. Academically this student probably graduated from either a general or college-preparatory high school curriculum with a "B" average, and was in the middle one-third of his class. He very likely was never enrolled full time at a four-year college/university.

4. Enrolled for 3 or 4 courses during the day, this student spent about 16 hours/week in class.

The "Typical" Vocational Student

1. The "typical" VOC student, more than any other type of CC/TI student, was most likely a male. Although this student probably would be white, there was a greater probability of his being nonwhite when compared to other curriculum students. Like the "typical" TECH student, he was 24 years old. Most likely, this student was married, lived whih his spouse and/or children, and was both a resident of North Carolina and the county in which the institution he attended is located. Chances were nearly equal that he was/was not a military veteran.

2. Socioeconomically, this student tended to have an annual income of about $6,000; his parents, approximately $9,000. He most likely was a high school graduate, his father's education tended to be grammar school or less, and his mother's education was less than high school graduation. His head-of-household likely was employed as a skilled craftsman, foreman, or operative.

3. While in high school this VOC student probably was enrolled in a general curriculum and maintained a "B" or "C" average. If he graduated, he probably ranked in the middle one-third of his class. It was most unlikely that he ever previously attended a four-year college/university full time.

4. Although tending to enroll in only 3 courses during the quarter, this student probably attended class for 26-27 hours/week during the day.

The "Typical" Academic Extension Student

1. The "typical" ACAD EXT student most likely was a 36-year-old white female who was married and lived with her spouse and/or children. A resident of both North Carolina and the county in which the CC/TI she attended is located, she almost certainly was not a military veteran.

2. Socioeconomically, this student probably was at least a high school graduate, perhaps even a college graduate, and she and/or her husband had an annual income of almost $7,500. Her parents most likely had only a grammar school education and an annual income of about $12,000. Her head-of-household probably was either a white-collar or blue-collar worker.

3. Her academic characteristics typified this student as having been in a general curriculum in high school, where she maintained a "B" average. If she graduated from high

school, she most likely ranked in the top or middle one-third of her class. Chances were three out of four that she had never enrolled as a full-time student at a four-year college/university.

4. Chances were almost equal that this ACAD EXT student attended class in the evening or during the day, most likely registered for a single course in which she spent five or fewer hours per week. She might have enrolled previously in other extension courses, but it was equally possible that this was the first time she had enrolled.

The "Typical" Fundamental Education Student

1. In FUND EDUC classes, the type of student most likely to be enrolled was either a female or male who was nonwhite and about 26 years of age. This student was probably married, although he/she could quite possibly have been single. If this student was not living with his/her spouse and/or children, chances were he/she had "other" living accommodations, quite possibly in an institutional setting. A resident of North Carolina and living in the county where the college/institute he/she attended is located, it was doubtful that this student was a military veteran.

2. The "typical" FUND EDUC student had some high school or grammar school education or less. His/her father most likely had only some grammar school background, while the mother more probably than the father had some high school experience. This student probably had an annual income somewhat less than $3,500; his/her parents, less than $7,500. The student's head-of-household might have been employed in any one of several blue-collar, unskilled, or agricultural occupations, but probably was not a white-collar worker.

3. In terms of academic characteristics, this student, if ever in high school, most likely was enrolled in a general curriculum. If he/she went to high school at all, this person probably maintained a "B" or "C" average, was typically in the bottom one-third of his/her graduating class, or else never graduated from high school. Almost certainly this student was not a military veteran.

4. Probably enrolled for the first time in a CC/TI extension program, this student tended to be registered in a single course, which he/she attended for 6-10 hours/week. Chances were slightly better than even that this student attended classes in the evening rather than during the day.

The "Typical" Occupational Extension Student

1. The demographic characteristics that best describe the "typical" OCCU EXT student produced the profile of a married, 40-year-old, white female who lived with her spouse and/or children in the county where the institution she attended is located. A North Carolina resident, she very likely was not a military veteran.

2. In terms of socieconomic characteristics, this student tended to be a high school graduate as compared to her parents who at best had some high school education. Her annual income was about $7,500, approximately the same as her parents, although it would not be uncommon for her annual income to be as high as $15,000. The occupation of her head-of-household spanned a wide variety of possible unskilled as well as white-collar and blue-collar jobs.

3. Typically, this student, if a high school graduate, ranked in the middle or top one-third of her class, maintained a "B" average in a general high school curriculum, and very unlikely had ever been a full-time student at a four-year college/university.

4. In terms of attendance characteristics, the "typical" OCCU EXT student enrolled in a single course which she attended 10 or fewer hours per week during the evening. Chances are about even that she may/may not have previously attended other extension courses.

The "Typical" Recreation Extension Student

1. Probably somewhere near her thirty-seventh birthday, the "typical" REC EXT student was almost certainly a married, white female who lived with her husband and/or children in the county where the institution she attended is located. A North Carolina resident, she was not likely to be a military veteran.

2. Together with her husband, she probably had an annual income of about $12,000, and was more likely than any other type of CC/TI student to have an income exceeding $15,000 a year. Tending to be at least a high school graduate, perhaps with some postsecondary education and maybe even a college graduate, this student lived in a household whose head was most likely employed in a white-collar or blue-collar occupation. Her parents probably never finished high school but, like their daughter, had an annual income of approximately $12,000, if not more.

3. Academically this student was most likely to have graduated in the middle or top one-third of her high school class where she was enrolled in a general curriculum, although it would not be unusual for her to have been in either a college-preparatory or business program. While in high school she may have been an "A" student, but more likely maintained a "B" average. Chances were one in four that she had been enrolled full time at a four-year college/university.

4. In terms of her attendance characteristics, this "typical" REC EXT student almost certainly was enrolled in a single course which she attended five or fewer hours per week, probably in the evening. Chances were better than even that she had previously enrolled in other extension courses.

Research Question 3

> What is the proportion of students enrolled in the North Carolina Community College System compared to the proportion of the State's population who are eligible to enroll in terms of their demographic and socioeconomic characteristics?

1. When students in all educational program areas were considered, about 55% were males compared to 48% males in the general adult population of North Carolina.

2. Nearly 75% of all students responding were white, in contrast to the 80% white adult population of the State.

3. With regard to age, 55% of the CC/TI students studied were less than 30 years old compared to 31% of the State's adult population.

4. Considering various occupational groupings, students and adults in the general State population were from households whose heads were employed in white-collar, blue-collar, unskilled, and farm occupations in roughly the same proportions.

5. About 66% of all students reported their primary incomes as less than $8,000 as compared to some 52% of the State's adult population with incomes in the same dollar range.

Research Question 4

What demographic and socioeconomic group(s) is/are not being served by the North Carolina Community College System?

1. When all students in all educational program areas were considered together in comparison to demographic and socioeconomic characteristics of the State's adult population, females were slightly underrepresented, nonwhites were slightly underrepresented, and occupational groups were proportionately represented in the CC/TI studied. Seriously underrepresented segments of the population were persons 50 years of age or older, those who were less than high school graduates, and persons with annual incomes of $12,000 or more. Slightly overrepresented were those under 30 years of age, persons who were high school graduates or who had one-three years of post-secondary education, and those whose annual income was less than $8,000.

2. Curriculum students as a group were seriously underrepresented among females, nonwhites, persons 40 years of age or older, those with less than a high school education, and persons with annual incomes of $12,000 or more.

3. Extension students as a group were seriously underrepresented among males, whites, persons 60 years of age or older, those with a grammar school education or less, and persons whose annual incomes were $12,000 or more.

Research Question 5

What changes have occurred in the socioeconomic profile of curriculum student since the 1968 Bolick survey?

1. Demographic changes noted between 1968 and 1974 included a trend toward enrolling in the curriculum student body a larger percentage of students who were female, nonwhite, between the ages of 26 and 49, married, and living in residences other than with their parents.

2. Socioeconomic changes included a tendency for the curriculum student body to be represented by larger percentages of higher income groups and students with more formal education than in 1968.

3. Changes in attendance characteristics among curriculum students included an increasing percentage enrolling in TECH programs, attending classes in the evening, enrolling part time, employed full time, and who would not have attended any other higher education institution had a CC/TI not been available.

4. Changes in curriculum student plans included an increase in the percentages who planned to continue their education toward the bacclaureate and who planned to be employed in North Carolina. Among those who did not plan to be employed in the State, a larger percentage planned to be employed outside the State. A relative percentage decrease was noted among curriculum students who planned to be married or to join the Armed Forces.

Research Question 6

> Which students would least likely continue their education were it not for the existence of their community college/technical institute in terms of sex, race, age, socioeconomic characteristics, and educational program area?

1. Over 60% of all students surveyed reported they would not have attended any other institution had it not been for the existence of their CC/TI.

2. Extension students were less likely than curriculum students to have continued their education in the absence of a local CC/TI.

3. Curriculum students who were 30 years of age or older, those who were either not high school graduates or were college graduates, those whose parents had a grammar school education or less, and those enrolled in VOC programs were the least likely to have continued their education had it not been for the existence of a local CC/TI.

4. Among extension students, the following types reported they would have been least likely to attend another institution if theirs had not existed: females; white students; those who were 30 years of age or older, especially those who were 60 years of age or older; those whose primary income was less than $3,000 annually; those whose head-of-household was employed in an unskilled or agricultural job; those whose education was either grammar school or less or were college graduates; and those enrolled in REC EXT programs.

Research Question 7

> Which students in what educational program areas are least likely to attend a community college/technical institute as the commuting distance to and from class increases?

1. When all students were considered, those enrolled in extension programs were the least likely to attend a CC/TI if the commuting distance exceeded 10 miles one way.

2. Curriculum students who were enrolled in COL-TR, TECH, and VOC programs were almost equally likely to attend classes as commuting distance increased. Nearly three-fourths of the students in all three curriculum program areas reported they traveled 15 or fewer miles to class one way.

3. Distance traveled to class had no substantially greater effect on attendance of extension students in any one educational program area. Between 80% and 85% of the students in any given extension program area reported they commuted 10 or fewer miles to class one way.

Research Question 8

> Which students in what educational programs are selecting community colleges/technical institutes as their first choice over other forms of post-secondary education?

1. Approximately 80% of all students surveyed named the CC/TI they were attending as their first choice among higher education institutions.

2. Extension students as compared with curriculum students were more likely to report their institution as first choice, although the difference between the two groups was slight.

3. Among curriculum students, TECH and VOC students were more likely than COL-TR students to name their institution as first choice.

4. Among extension students, FUND EDUC students were more likely than those enrolled in other extension programs to name their institution as first choice.

5. Of the students who reported some other institution as their first choice, the largest percentage indicated public four-year colleges/universities, followed by a CC/TI

other than they one they were attending. Exceptions to this generalization included VOC and FUND EDUC students, among whom the largest percentage reported as first choice a CC/TI other than the one they were attending.

Research Question 9

> What forms of recruitment strategies attract students in different program areas to community colleges/technical institutes?

1. When all students were considered, the five sources that most influenced their decision to attend a particular institution were friends (not students), employers, students' spouse, other students, and CC/TI personnel. Their major sources of information regarding educational programs and courses were friends (not students), CC/TI personnel, institutional literature, other students, employers, and the mass media.

2. When curriculum and extension students were compared, parents were more influential among curriculum students. Regarding sources of information, institutional literature was cited with greater than twice the frequency among curriculum students as among extension students. Friends (not students) were reported more than twice as often among extension as among curriculum students.

3. Personnel of the CC/TI served as important sources of information for curriculum students, especially among those enrolled in COL-TR programs. However, these personnel were only moderately influential with curriculum students in deciding what institution to attend. They were least influential among COL-TR students. Among extension students, CC/TI personnel were important sources of both influence and information for those enrolled in FUND EDUC and OCCU EXT programs, but not for ACAD EXT or REC EXT students.

4. Employers were important sources of both influence and information among students in all extension program areas, except those enrolled in REC EXT, and were most important for ACAD EXT students. Among curriculum students, however, employers were weak sources of either influence or information for COL-TR students. Students in TECH and VOC programs indicated employers exerted only moderate influence on their choice of institution and were weak sources of information regarding programs and courses.

5. Four-year college/university personnel, academic and vocational high school teachers, high school coaches, high

school counselors, and social services agencies were generally poor sources of both influence and information among both curriculum and extension students. Only for COL-TR students did high school counselors approach being moderately important sources of information.

6. Institutional literature served as a very important source of information regarding programs for curriculum students, regardless of their educational program area. This generalization does not hold for extension students. Only among ACAD EXT and REC EXT students was institutional literature moderately important.

7. Such news media as radio, television, and newspapers served as moderately important sources of information for ACAD EXT and OCCU EXT students. They were important sources of information for REC EXT students, but weak sources for those enrolled in FUND EDUC and curriculum programs.

8. Parents exerted considerable influence on curriculum students in the decision to attend a particular institution, but were generally weak sources of information concerning programs and courses. Parents of extension students were poor sources of either influence or information, except among FUND EDUC students, where parents were moderately influential.

9. Spouses tended to be influential among curriculum students and moderately influential among extension students, but were fairly poor sources of information among both groups.

10. Other relatives were generally weak sources of influence and information among both curriculum and extension students.

11. Friends (not students) were consistently influential and served as important sources of information for students in all program areas, especially those enrolled in extension programs. An exception to this generalization was their influence among COL-TR students.

12. Other students served as influential persons among curriculum students generally, and were important sources of information for all students. Among extension students, however, only OCCU EDUC and REC EXT students reported other students as influential in their choosing to attend the institution.

Research Question 10

> Which students are receiving financial assistance and what is the source of that aid in terms of their demographic and socioeconomic characteristics?

1. When all students were considered, the first most frequently cited sources of income, in rank order, were regular full-time and part-time employment, spouse, VA benefits, parents, and savings.

2. When curriculum and extension students were compared employment, VA benefits, parents, and savings were cited by a sizably larger proportion of curriculum students. Extension students indicated spouse and Social Security benefits relatively more frequently than did curriculum students.

3. Among the traditional sources of student financial aid--Basic Education Opportunity Grants (BEOG), educational loans, scholarships, and student work-study programs--only the last-named was cited by more than 5% of curriculum students. These financial assistance programs were not significant income sources for extension students.

4. A larger percentage of males than females in curriculum programs reported regular full-time or part-time employment and VA benefits as sources of income. However, a larger proportion of females than males indicated assistance from nearly every other income source, including BEOG, educational loans, scholarships, and work-study. In addition, females reported as sources of income their spouse over three times more often and parents nearly twice as often as males.

5. White curriculum students reported employment, parents, spouse, and scholarships with greater frequency than did nonwhite students. A larger proportion of nonwhite than white students, however, received BEOG, educational loans, MDTA, VR, and work-study assistance.

6. Curriculum students who were over 25 years of age indicated regular full-time or part-time employment, VA benefits, and spouse as sources of income more often than did younger students, who relied more heavily on their parents, savings, and summer employment. Financial assistance programs of grants, loans, scholarships, and work-study were without exception reported more frequently by curriculum students who were less than 26 years of age than by older students.

7. When analyzed by occupational grouping, curriculum students whose head-of-household was employed in a white-collar or blue-collar job were more likely to receive assistance from their parents or spouse than were those whose head-of-household was in an unskilled or farm occupation. Students whose head-of-household was in an unskilled or farm occupation reported BEOG and educational loans more frequently than their counterparts from other occupational groupings. Scholarships, Social Security benefits, summer employment, and work-study program assistance were more frequently sources of income for curriculum students from farm households than from any other occupational grouping.

8. Curriculum students with primary incomes of less than $7,500 annually were more likely than students from other income groupings to depend upon work-study programs, Social Security benefits, BEOG, scholarships, VR and MDTA funds, educational loans, and welfare assistance. Students with primary incomes of more than $15,000 annually cited parental assistance and savings as sources of income more often than students from lower primary income groups.

9. Of all curriculum students, COL-TR students were the most likely to be receiving assistance from their parents, savings, summer jobs, and work-study programs, and were the least likely to be receiving VA benefits. Vocational students were most likely to be assisted under the MDTA program, and the least likely to be receiving educational grants, scholarships, loans, and work-study assistance.

10. Among extension students, males were more likely than females to have employment and VA benefits as sources of income, whereas females were more likely than males to have their spouse and Social Security benefits as income sources.

11. White extension students more frequently cited full-time or part-time employment, spouse, and savings as income sources than did nonwhite students, who more often than white students had VR and welfare assistance.

12. Extension students who were under 26 years of age were the most likely to have parental support; persons 26-59 years of age most often had as sources of income full-time or part-time employment and their spouse. Students 60 years of age and older were the most likely to be supported by Social Security benefits and savings.

13. Extension students from unskilled and farm occupations households were the most likely to have Social Security benefits or welfare assistance. Those whose head-of-household was in a farm occupation were the least likely to have regular full-time or part-time employment as a source of income.

14. Extension students whose primary income was less than $7,500 annually mentioned employment or their spouse least often of all extension students, but were the most likely to receive Social Security or welfare assistance.

15. A higher percentage of ACAD EXT students than any other student group received Social Security benefits, while those in REC EXT were the most likely to have their spouse as a source of income. Fundamental education students received parental support and VR assistance the most often of the extension students, while OCCU EXT students were the most likely to have employment as an important income source.

Research Question 11

Which students are employed and to what extent?

1. Over 65% of all students participating in the research study were employed either full time or part time, 17% were "unemployed," while another 17% were either retired or "keeping house." If employed, the median hours worked by all students was 42 hours/week.

2. Curriculum students were more likely working part time than extension students, who reported "keeping house" with nearly four times greater frequency than curriculum students. Just under one-half of both groups indicated they were employed full time. Curriculum students were more frequently "unemployed" than were extension students.

3. Among curriculum students, COL-TR students were the most likely to be employed part time; TECH and VOC students had a greater probability of full-time employment. In all three curriculum programs, roughly one-fourth of the students were "unemployed." The median hours worked by employed COL-TR students was 27 hours/week compared to 40 hours for TECH students and 41 hours for VOC students.

4. Extension program students enrolled in ACAD EXT were three times more likely to be retired than students in other extension programs. Fundamental education students had four to seven times the probability of other students of being unemployed, with over 40% in that category. Occupational extension students were the most likely group to be employed

full or part time; more than two-thirds were in that category. Recreation extension courses enrolled the largest percentage of adults who cited "keeping house" as they employment status. Among extension students who were employed, ACAD EXT students worked a median of 43 hours/week; FUND EDUC and REC EXT students, 41 hours/week; and OCCU EXT students, 42 hours/week.

Research Question 12

> Which curriculum students in what educational program areas plan to work in North Carolina following the completion of their educational program?

1. Of all curriculum students surveyed, nearly 70% planned to work in North Carolina following their formal education, about 20% were uncertain, and almost 10% thought they would not.

2. Technical and VOC students more frequently than COL-TR students indicated they planned to be employed in the State, while COL-TR students were the more uncertain.

3. Among curriculum students who did not plan to be employed in North Carolina, 77% indicated they planned to work in another state.

Research Question 13

> Which students in what educational program areas plan to work toward a four-year degree?

1. Forty percent of all curriculum students planned to work toward a four-year degree, 27% were undecided, and nearly 33% thought they would not continue their education toward a baccalaureate degree.

2. Nearly 90% of all COL-TR students planned to work toward the baccalaureate, with less than 4% expressing doubt that they would continue.

3. Among TECH students, approximately one-third planned to work toward a four-year degree, one-third were uncertain, and one-third expressed doubt.

4. A majority of VOC students probably or definitely would not seek the baccalaureate, nearly one-third were uncertain, but over 15% thought they would.

5. Among extension students, over one-third planned to enter a credit program at a CC/TI in the future. Fundamental education students were the most likely to enter a credit program, with over one-half of those students so indicating.

Hypothesis Testing

Hypothesis I

> There is a positive relationship between socioeconomic status characteristics of students and educational program area of selection.

1. When each of the independent variables was tested separately, a positive relationship was indicated between all but one of the socioeconomic status characteristic variables and educational program area of selection.

2. Further tests indicated considerable intercorrelation between socioeconomic status characteristic variables. When these intercorrelational effects were statistically controlled, a positive but relatively weak relationship was found between all but three of the socioeconomic status characteristic variables and program area of selection.

3. Based on the foregoing findings, hypothesis I was accepted for socioeconomic status characteristic variables of primary income, father's education, mother's education, and student's education. The hypothesis was not accepted for head-of-household's occupation, parents' income, and student's income.

Hypothesis II

> There is a positive relationship between measures of student academic ability and educational program area of selection.

1. When each of the independent variables was tested separately, a positive relationship was indicated between both academic ability variables and educational program area of selection.

2. Further tests indicated considerable intercorrelation between high school average and high school rank. When the intercorrelational effects were statistically controlled, nearly all the variation accounted for by high school average alone was eliminated when controlling for high school rank.

High school rank was significantly but weakly associated with program area of selection in the direction predicted; high school average was not.

3. Based on the foregoing findings, hypothesis II was accepted for high school rank, but not accepted for high school average.

Hypothesis III

> There is a positive relationship between measures of academic ability and education program area of selection when socioeconomic status characteristics of students are controlled.

1. When all the independent variables were tested simultaneously, there was a positive relationship of socioeconomic status characteristics and academic ability variables with educational program area of selection. However, the amount of variation accounted for by the academic ability variables increased only slightly over the amount already explained by knowledge of the socioeconomic variables alone.

2. Further tests indicated considerable intercorrelation between socioeconomic status characteristic variables and academic ability variables. When the intercorrelational effect was statistically controlled, a positive but very weak relationship was revealed between high school rank and program area of selection when socioeconomic status characteristic variables were controlled.

3. On the basis of the foregoing, hypothesis III was accepted for high school rank, but not accepted for high school average.

Hypothesis IV

> There is a positive relationship of socioeconomic status characteristics of students and measures of academic ability with educational program area of selection when demographic variables are controlled.

1. When demographic variables of age and sex were introduced, no change was indicated in direction, significance, or relative strength of the relationship between the socioeconomic and academic ability variables and educational program area of selection.

2. In the final analysis, socioeconomic variables accounted for the greatest portion of the explained variability in the dependent variables, with student's education, race, and primary income making the greater contributions. High school rank accounted for relatively little variation in the dependent variable, but more so than for mother's education and father's education. The relationship of significant socioeconomic and academic ability variables, while in the direction hypothesized, represented a relatively weak association.

3. Based on the foregoing findings, hypothesis IV is accepted for student's education, primary income, mother's education, father's education, and student's high school rank. The hypothesis is not accepted for head-of-household's occupation, student's income, parents' income, and student's high school average.

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS FOR FURTHER RESEARCH

Conclusions and Implications

Based on the findings of this study with relation to what is believed to be their significance for CC/TI, certain conclusions and their related implications are offered.

CONCLUSION 1: The current concept of the community college/technical institute student is inadequate.

Drawing upon the evidence reported herein, it is apparent that the popular concept of the CC/TI student as a young, recent high school graduate who attends credit classes full time during the day, and who depends upon his parents for the major portion of his financial support simply is not an adequate description. First, extension or noncredit students, who heretofore had been the subject of very little research or discussion, exceeded the number of curriculum or credit students appearing on CC/TI campuses across the State in 1974. Second, even among curriculum or credit students, the popularly held concept of a typical student is erroneous. Only the COL-TR student profile approached the description which, in the past, was assumed to characterize most of the students. Finally, when student profiles were compared over the years, it became obvious that the 1974 trend was in the direction of serving more, not fewer, non-traditional students than ever before.

Clearly, in 1974 "new" students to the NCCCS were enrolling in a significantly increasing proportion of the total student body. The new students tended to be older, representing an age range from 26 to 49 years; they were married, worked full time, and often earned more money than the younger traditional students; they attended classes part time in the evening; and they probably would not have attended any other institution had it not been for the presence of a CC/TI within easy driving distance of their homes.

The conclusion that the current concept of the CC/TI student is clearly inadequate has far-reaching implications for NCCCS educators in the areas of educational programming, administration, teaching, and student services. Given the types of students currently enrolling, curriculum development based on surveys of the interests of high school seniors alone, without regard for the needs and desires of other segments of the adult population, clearly becomes a questionable basis from which to make program decisions. Similarly, simply offering popular courses for part-time evening students, without extending the possibility of completing a degree program in evening classes, only partially serves the needs of those students. Likewise, offering unrelated noncredit extension courses each quarter, without a well-conceived sequence of educational development for the student, lacks the necessary continuity for significant educational development for extension students.

In terms of teaching, a changing concept of what and who a CC/TI student is will require a reevaluation of current instructional practices based upon the needs of this new breed of student, who may come to the classroom or other learning setting with a different frame of experiences and expectations, learning styles, and abilities than the full-time, younger, day student. Other aspects of the same phenomenon are the questions of (1) whether or not part-time curriculum and extension students do in fact receive the same quality of instruction as that offered to full-time students, or (2) whether there have developed part-time or evening faculties who, separated from the regular faculty, may lack the same professional abilities or commitment to student development.

Student services (e.g., counseling, veterans affairs, library and other learning resources facilities, job placement, and student activities programs) may need to be reoriented such that sufficient and appropriate services are made available at times and places convenient to all students, not just those on campus full time during the day. Likewise, financial assistance programs may need to be reorganized such that recognition is given to part-time curriculum and extension students. The Commission on Non-Traditional Study (1974, p. 77) recommended that the practice of failing to provide a full range of institutional services to part-time, including noncredit, students should end; i.e.: "This discrimination against the part-time student must be ended, as must institutional restrictions on services and aid for their less-than-full-time students."

Administrative plans, resource allocations, decisions, and institutional commitments based on a distorted perception of who is being served may very well miss the mark of serving those who would benefit most from a CC/TI education.

> CONCLUSION 2: Overall, North Carolina community colleges/technical institutes tend to live up to their claim as the "people's colleges," but only when all students are considered together.

One of the major tenets of the egalitarian NCCCS philosophy is the belief that CC/TI should and actually do serve a cross section of the population within their service areas. Based upon the findings to Research Question 3--What is the proportion of student enrolled in the NCCCS compared to the propotion of the State's population who are eligible to enroll, in terms of their demographic and socioeconomic characteristics?--and Research Question 4--What group(s) is/are not being served by the NCCCS, in terms of their demographic and socioeconomic characteristics?--it was concluded that overall CC/TI tend to live up to that philosophy, not only by attracting all segements of the State's adult population to their educational programs, but by serving particularly those adults who commonly are referred to as the "disadvantaged"--racial minorities and low-income groups.

However, there are some important exceptions and qualifications to this sweeping generalization. First, older adults and persons with little formal education--two most important segments of the State's populaton--are seriously underrepresented in CC/TI programs. A basic question deserving the attention of NCCCS educators is whether this low representation is due to a lack of motivation within those persons, or due to a failure on the part of the CC/TI to offer relevant educational programs at times and places convenient for those groups. Perhaps other agencies, churches, and/or community groups are serving the needs of those persons. Another possible explanation could be that the requirement of high school graduation or its equivalent may be effectively blocking admission of older adults and persons with little formal education to educational programs they most want or need.

A second qualification to the aforementioned generalization is that CC/TI are comprehensive in terms of the people they serve only when students in all educational programs are considered together. Curriculum programs do not by themselves attract a cross section of the adult population. For instance, all curriculum programs, particularly those in vocational education, were in 1974 serving a disproportionately greater percentage of males than females. In light of this circumstance, one is led to raise the questions of (1) whether or not these curricula are designed primarily for occupations traditionally reserved for males only, (2) whether females are being encouraged to explore possible careers in those male-dominated occupations, and (3) whether any real attempts have been made to provide child day-care facilities for the children of female students.

Also, COL-TR programs were serving a disproportionately larger percentage of younger, white, and comparatively upper socioeconomic students, while VOC programs were disproportionately attracting more persons from lower socioeconomic and nonwhite groupings. The implication of these occurrences with relation to educational opportunities and social stratification are discussed in a later conclusion.

As in the case of curriculum programs, extension program students were not in themselves representative of the State's adult population. Recreation extension, in particular, served a relatively narrow segment of the adult population, dominated by affluent white females. If REC EXT is an appropriate activity for CC/TI to offer, one must ask: Are the educational opportunities and tuition costs of these courses currently limiting accessibility such that other segments of the adult population cannot fully participate in them?

The conclusion that, overall, North Carolina CC/TI tend to live up to their claim as the "people's colleges," but only when all students are considered together, generated the major implication that, if CC/TI are to claim they are comprehensive--not only in the programs they offer but also in terms of the people they serve--they cannot substantiate that claim by making reference solely to their full-time day students and degree programs. It is only when all students--day and evening, full time and part time--and all programs--extension as well as curriculum--are considered that these institutions approximate their comprehensive philosophy.

> CONCLUSION 3: North Carolina community colleges/technical institutes, in general, are moving with time toward serving a broader cross section of the State's population in their curriculum programs.

The findings from the previously stated Research Questions 3 and 4 also revealed that in 1974 females, nonwhite adults, persons who were not high school graduates, and persons 30 years of age and older were underrepresented in the curriculum programs of CC/TI when compared to the State's adult population. However, when 1974 data were compared to Bolick's 1968 data, the findings for Research Question 5--What changes have occurred in the profile of curriculum students since the 1968 Bolick survey?--gave evidence of a trend toward greater representation of most of those groups in the current curriculum program student body.

For example, 1974 data indicated an overrepresentation of males enrolled (61%) when compared to the State's adult male population (48%). However, from 1968 to 1974, an increasing proportion of females enrolled (i.e., an increase from 32% to 39%). Similarly, although in 1974 nonwhites represented 20% of the State's adult population compared to only 18% in the curriculum program student body, this proportion represented a 5% increase from the 13% nonwhites enrolled in 1968.

According to 1974 data, there was an overrepresentation of students who were under 30 years of age (61%) as compared to that age group in the adult population (31%). As would be expected, there was a concomitant underrepresentation in curriculum programs of persons who were over 49 years of age (2%) as compared to that age group in the total adult population (34%).

In terms of the direction CC/TI moved between 1968 and 1974, a slight increase occurred in the proportion of curriculum program enrollees who were over 49 years of age, but a considerable decrease in the proportion of enrollees who were under 23 years of age--from 73% in 1968 to 44% in 1974. The age groups between 23 and 50 showed the largest increases among the curriculum program enrollees during the six-year period.

A significant overrepresentation in 1974 of curriculum students with at least a high school education (95%) was revealed when compared to the State's adult population (38%). Between 1968 and 1974, relatively little change was noted in the tendency for CC/TI to draw their curriculum students from the ranks of those with at least high school diplomas (an increase from 94% to 95%).

One may infer from the foregoing that in their curriculum programs North Carolina CC/TI were in 1974 moving toward serving more of a cross section of the adult population with regard to sex, race, and middle-aged groups, but not with reference to older students and those with little formal education.

The basic questions raised by Conclusion 2 with regard to age and formal education again emerge and are restated: why have not persons over 49 years of age and those with less than high school educations enrolled to a greater extent in curriculum programs? Is it a matter of failure to design and offer appropriate learning experiences at times and places convenient to those persons? Are CC/TI admissions policies in effect denying opportunities to those with less than a high school education, or do those persons simply lack the motivation to enroll?

One further area in which a trend toward a more representative curriculum student enrollment appeared was income level. While 1974 data indicated that CC/TI were serving a disproportionate representation of students from lower income brackets, especially those from income groups between $4,800 and $8,000, there was a trend between 1968 and 1974 toward serving a greater proportion of middle/upper-income groups. Between 1968 and 1974, the enrollment of curriculum students in the $7,500 or more annual income brackets increased from 3% to 30%. Implications of those changes raised the questions of (1) whether the increasing representation of middle/upper-income students is indicative of CC/TI becoming more comprehensive in terms of the persons served, or (2) does it mean that those institutions are gradually shifting their emphasis toward becoming middle-class institutions that are less committed to the poor?

> CONCLUSION 4: Community colleges/technical institutes represent a major social force in providing educational opportunities to the people of North Carolina.

Some critics have charged that locally based CC/TI have not significantly increased the rate at which students enroll in higher education programs (Anderson et al., 1972). If this charge were substantiated, it would indicate that CC/TI are not effectively extending educational opportunities to those segments of the population formerly denied access to higher education, but rather are merely duplicating existing educational opportunities. The findings of this study indicate that this charge against the CC/TI is unfounded on two counts.

First, the composite student profiles reported earlier and the comparisons made between student characteristics and the characteristics of the general adult population showed that 1974 CC/TI enrollments approximated a cross section of the State's adult population. Other segments of higher education have neither demonstrated nor claimed to serve such heterogeneous student bodies.

Second, the findings for Research Question 6--Which students in what educational program areas would least likely continue their education were it not for the existence of CC/TI, in terms of their demographic and socioeconomic characteristics?--revealed that 40% of all curriculum students and 80% of all extension students surveyed would not have continued their education were it not for the existence of their CC/TI. Of the students indicating they would not have attended other institutions, the largest percentage was not among those who traditionally attend institutions of higher education. Rather, the highest percentage was among nontraditional or "new" students--those in vocational and extension programs, part-time students, those whose parents or themselves had little formal education, lower-income students, and persons in the middle and older age groups.

There is, however, one area where the critics' charges against the CC/TI might be substantiated by the findings of this study. College-transfer students were the most likely group to have continued their education, even if their local community college had not existed. Given the facts that over three-fourths of the COL-TR students surveyed would have attended another institution had theirs not existed, and that COL-TR programs were the least likely to enroll "new" or nontraditional types of students, there seems to be some relative merit to the critics' claim of program duplication and no significant increase in the rate of college attendance. However, further research and more intensive analysis might show that the 23% of COL-TR students who would not have continued their education were it not for the existence of their community college was a unique group who would not have attended any other institution or educational program. In that event, even this portion of the critics' charges against community colleges would be unsubstantiated.

Based on the foregoing discussion, it was concluded that, overall, CC/TI represent a unique and major social force in providing educational opportunities to the people of North Carolina. The major implication of this conclusion is that if CC/TI should decide or be forced to cut back on educational programs, other than among COL-TR students, the likely consequence would not be a major influx of students into four-year colleges/universities. Rather, major segments of the State's adult population no longer would have available to them viable postsecondary educational opportunities.

> CONCLUSION 5: If community colleges/technical institutes are to remain accessible to all North Carolinians, they must be located close to the people they are meant to serve.

The results reported for Research Question 7--Which students in what educational program areas are least likely to attend a CC/TI as the commuting distance to and from class increases?--showed that, for most practical purposes, CC/TI in 1974 had their largest attendance among curriculum students who lived 20 miles or less from campus and among extension students who lived 10 or fewer miles from where classes were offered. Once educational activities were removed further than those distances, the attendance rates dropped substantially. Thus, it appears that the expected commuting distance of 30 miles, reported by the Carlyle Commission (1962), may be too great, and that the Community College Study's projection of 25 miles for commuters to travel to campus (Hurlburt, 1952) was more accurate in terms of actual commuting patterns, at least for curriculum students in 1974.

If postsecondary educational opportunities for all North Carolina adults is truly a major goal toward which leaders in the State are committed, then appropriate educational programs must be offered at locations near where people work and live, and thereby made a part of their daily living. In an era when increasingly rapid technological changes are interwoven into the fabric of human existence, continuous learning throughout the adult life span becomes imperative if adults are to be successful in adapting to, coping with, and contributing to a changing society.

Implications of the conclusion that CC/TI must be located close to the people they serve fall into two main areas. First, if optimum educational opportunities are to be provided to its publics, off-campus learning centers must be strategically located throughout an institution's service area. While extensive use had been made of off-campus centers for extension courses, greater consideration of this same concept for curriculum courses and programs may be in order.

Second, if the cost for providing postsecondary education continues to soar, attention should be given to a regional CC/TI concept, with multiple campuses as an alternative to either closing existing institutions or opening new ones. Under the concept of regional CC/TI, a number of campuses under a single administration would streamline the expense of operating single institutions while continuing to provide postsecondary educational opportunities close to the homes of the persons whose needs are to be met.

> CONCLUSION 6: North Carolina community colleges/technical institutes are chosen first by their students over other forms of postsecondary education.

Since the emergence of the community college movement nationwide, these institutions have been plagued by the notion that they are either second-rate or less than desirable places for higher education in the eyes of the students served. According the findings for Research Question 8--Which students in what educational program areas are selecting CC/TI as their first choice over other forms of postsecondary education?--this notion appears to be unfounded, inasmuch as some 80% of the North Carolina CC/TI students surveyed in 1974 rated those institutions as their first choice over other forms of postsecondary education. Even among the 20% who indicated otherwise, nearly one-third said their first choice was a CC/TI located in another part of the State. Two possible explanations are suggested for the growing popularity of these institutions.

First, beside the fact that CC/TI offer low-cost educational opportunities that are accessible to most of the adult population of the State, the programs they offer are not cast from the mold of traditional higher education, but are non-traditional in nature. Consequently, the programs serve the needs of the non-traditional student who has not participated in educational opportunities beyond high school. Returning to the descriptions of CC/TI students, reported earlier in various profiles, a large proportion of the enrollees were part-time, relatively older students in both credit and noncredit programs who attended classes in the evening. Those students who most frequently indicated CC/TI as their first choice were not those enrolled in the more traditional COL-TR programs. Rather, they were students in TECH, VOC, and extension programs, many of which are not found other than at a CC/TI.

A second possible reason for the popularity of CC/TI may well be what the Carnegie Commission on Higher Education (1973) termed a "crisis in confidence" in higher education. People are no longer willing to expend vast amounts of their money and energy on educational programs that offer doubtful returns for their efforts. Educational activities based on serving the career and life goals of the adult population are more likely to meet those needs and goals than are many of the esoteric programs of traditional higher education.

The implications of the proffered explanations for the growing popularity of CC/TI, if they are valid, is that CC/TI are meeting the needs of a new breed of student such that, through programs designed and offered, the very concept of higher education is rapidly changing. This shift appears to be toward a more general definition of postsecondary and lifelong learning--not just for the select few who can afford the privilege, but now for the masses of people who recognize that, in large measure, their futures and the futures of their state and nation are vested in a highly skilled, well-educated populace.

> CONCLUSION 7: Community college/technical institute students in different educational programs are influenced to enroll in a particular institution and learn of program offerings in different ways.

This general conclusion actually has three basic components. The first is that often persons who most influence a potential student to enroll at a CC/TI are not always the persons who are utilized as sources of information about the institution's program offerings. For instance, parents and spouses, who were most influential with curriculum students with regard to attending the local institution, seldom were cited as sources of information regarding the institution's curriculums. On the other hand, CC/TI personnel were cited more often by students as sources of program information than as being influential in their decision to attend an institution.

The second basic component of Conclusion 7 is that students who eventually enrolled in a particular educational program area learned of that program in ways that were different from those who enrolled in other programs. For example, the results for Research Question 9--What forms of recruitment strategies attract students in different educational program areas to CC/TI?--revealed that students who enrolled in curriculum programs relied more heavily upon institutional literature for information about CC/TI programs than did extension students, most of whom reported friends (not students) or the news media as important sources of information. More specifically, parents were reported as being very important sources of information among COL-TR students, but less important among VOC students. Among extension students, the news media were important sources of program information for ACAD EXT, OCCU EDUC, and REC EXT students, but not for those in FUND EDUC.

The final component of general Conclusion 7 is that certain persons presumed to be both sources of influence and informational centers, particularly among curriculum students, apparently were not always so important as assumed. High school counselors, in particular, were reported by only 5-10% of curriculum students in any program area as sources of information relative to CC/TI educational programs. They were cited even less often as being influential in the decision to attend a particular institution. High school teachers also were relatively unimportant in terms of providing program information or being influential in students' decisions to attend a particular CC/TI.

The implications of the conclusion that CC/TI students in different educational programs are influenced to enroll in a particular institution and learn of program offerings in different ways, in terms of institutional community relations and recruitment programs, are several. Generalized publicity campaigns through mass media and institutional literature had quite a positive impact on students' decisions. Nevertheless, in the writers' opinion, they are not sufficient. For recruitment to be more successful, target populations might be specified and approached systematically. Obviously, informational and recruitment campaigns cannot be launched toward such ambiguous populations as "friends," but there are publics that can be clearly specified.

One strategy could be aimed at making more informed those persons who were indicated as most influential with the students in this study. Parents of high school students coul be kept regularly informed regarding the local institution's programs and activities through newsletters and other media.

Employers within the local service area also could be kept apprised of OCCU EDUC programs and course offerings in both curriculum and extension areas through systematic notices and advisory committee meetings.

Another possible strategy would be to assure that those persons who are regularly sought by potential students for information about the local institution and its programs are accurately informed so that the information they provide is reliable. In particular, students who are already enrolled might be defined as a target audience to receive information about their institution and all of its educational programs, not just information on the particular curriculum in which they are enrolled. In addition, students themselves might be employed by the CC/TI to serve as institutional recruiters.

A final strategy, derived from general Conclusion 7, is that the local institution's informational and recruitment efforts may need to be reevaluated, based upon the returns obtained with relation to the effort expended. If investigations indicated that such persons as high school teachers and counselors seldom are utilized as information centers, or have little influence on would-be students, a reevaluation and redirection of publicity and recruitment efforts might be warranted. This strategy also would apply to such areas as the use of mass media and institutional literature to inform and recruit FUND EDUC students, who, according to the findings of this study, do not rely heavily on such sources of information.

> CONCLUSION 8: Community college/technical institute students depend primarily upon their own resources and not on financial assistance programs for support while continuing their education.

One of the basic objectives of the CC/TI is to offer educational opportunities at minimal cost to adults in its service area. Due to the very large proportion of middle-income and low-income students who tend to be attracted to those institutions, relatively large and comprehensive student financial assistance programs are thought to be imperative in making educational opportunities a reality to those students.

According to results related to Research Question 10--Which students in what educational program areas are receiving financial assistance and what is the source of that aid, in terms of their demographic and socioeconomic characteristics?--less than 5% of North Carolina's CC/TI curriculum students, and even fewer of extension students, were receiving assistance through any one of such standard financial aid programs as BEOG, educational loans, and scholarships during the period covered by this research. The single exception was work-study programs, in which approximately 6% of the curriculum students participated.

The only source of educational financial assistance that contributed significantly to the support of curriculum students was the VA program of aid, which, of course, is limited to only certain students, regardless of their financial need or academic ability. Consequently, the vast majority of the students--those enrolled in extension as well as curriculum programs--tended to rely upon personal resources, such as part-time, full-time, and summer employment; relatives; and savings, rather than on financial aid programs, *per se*.

This conclusion raises a question with regard to the adequacy of existing financial aid programs when one considers that about one-half of all students in this study and/or their parents had annual incomes of less than $7,500 while nearly two-thirds of those students worked an average of 30-40 hours/week. Research sponsored by the College Entrance Examination Board showed that the inadequacy of existing financial assistance programs is not a phenomenon peculiar to North Carolina. Many community colleges across the nation simply do not apply for assistance programs, and those applying often underestimate the needs of their students. As Gladieux (1975, pp. 2-3) reported:

> For 1974-75, of all the accredited two-year colleges, approximately 220 did not file applications for Supplemental Educational Opportunity Grants; nearly 500 failed to apply for National Direct Student Loans; and 140 did not request College Work-Study funds. . . . Students do have substantial needs and in too many cases are effectively denied potential opportunities for federal assistance simply because of the institution's failure to apply for an allotment of funds.
>
> Furthermore, those two-year institutions that do participate . . . may not be requesting as much money as they should because of the underestimation of the actual costs of attendance, particularly for commuting students.

Given the types of students enrolling in North Carolina CC/TI, another implication is the possible need for reevaluating the criterion upon which financial assistance is awarded. With the increase in part-time curriculum and extension enrollments, many of those students may well be able to demonstrate financial barriers that are equally important as those of full-time curriculum students--financial barriers which preclude them from attaining their educational objectives. The recent provision under certain federal assistance programs to recognize not only full-time students but also those attending on a half-time and one-quarter-time basis is indicative that some programs already have adopted new award criteria.

CONCLUSION 9: Most curriculum students plan to be employed in North Carolina following the completion of their educational program.

arly 88% of the curriculum students who were relatively
rtain of their futures planned to remain and to be employed
North Carolina upon the completion of their educational
ogram as contrasted to 82% reported in Bolick's 1968 data--
6% increase over the six-year period.

Since an important component of the rationale for the
unding of CC/TI in North Carolina was related to the eco-
mic development of the State, it is essential that students
o complete educational programs therein become a part of
e State's labor force. Otherwise, North Carolina taxpayers,
effect, will be paying for the development of other re-
ons. Based on the results of this study, the NCCCS is in-
ed contributing to the economic development of the State,
the students surveyed actually follow through with their
ated intentions.

CONCLUSION 10: An increasing proportion of students in non-college-transfer programs plan to continue their education beyond their current program of study.

aditionally, CC/TI students are separated into three basic
oups, referred to as transfer, terminal, or noncredit stu-
nts, depending upon the educational program in which they
roll. Those in preprofessional or liberal arts programs
ten are the only ones thought to have the capacity to trans-
r to and succeed in four-year institutions, usually to the
ccalaureate level. As a result, most of the articulation
forts of community colleges are directed toward the benefit
COL-TR students. Students enrolled in TECH, VOC, or non-
edit programs are considered "terminal," with little need
r advanced course work once they complete their program.

Bolick's 1968 data showed that 27% of TECH program stu-
nts and 16% of VOC program students planned to work toward
four-year degree. As a result of those findings, Bolick
969, p. 71) recommended that CC/TI educators "investigate
e feasibility of a Bachelor of Technology degree for those
chnical students who desire to continue their education."

The 1974 data confirmed that students' plans to continue
eir education beyond their current program of study had
t abated. Thirty-two percent of TECH program students and
% of VOC program students planned to work toward a four-
ar degree. Even more impressive, one-third of both TECH
d VOC students were undecided with regard to their continu-
g education plans, probably due at least in part to the

limited opportunities for them to transfer to a four-year degree program. Adding to this observation, over one-third of all extension students planned to enter a curriculum program in the future.

These findings implied the need for a redefinition of "transfer" and the elimination of the notion of "terminal" education, an implication drawn not only from the findings of this study, but also based on several other recent developments.

One development is the trend for four-year colleges/universities to recognize the need for technical baccalaureate degree programs. A second is the development of the "ladder" and "cluster" curriculum concepts, which permit early acquisition of basic occupational skills within a one to two-year period. Then, as students are motivated toward advanced proficiency, they have the opportunity to add to and/or broaden those skills in third and fourth years--and beyond. A third development is the adoption of standardized challenge examinations, which permit the awarding of academic credit to students who have the requisite knowledge and skills to pass a given course, regardless of the manner in which they acquired such learning. Fourth is the adoption of Continuing Education Units (CEU) and the growing recognition of the concept of lifelong learning as both desirable and necessary in a rapidly changing and increasingly complex technological society.

The implications of those four developments, combined with the results reported by Bolick and in this study, are basically three. First, they indicate that the arbitrary distinction between transfer and other types of students is outdated and artificial. This implication stands in direct contradiction to the popularly held assumption (Martorana and Strutz, 1973, p. 19) that "the occupational student at the time of his attendance at the community colleges does not plan to carry his formal education any further." Second, articulation efforts between public two-year institutions and four-year colleges/universities should be extended to explore expanded opportunities for students in TECH, VOC, and continuing education programs. Finally, in terms of institutional curriculum planning, the ladder and cluster concepts should be employed as often as appropriate to provide curriculum and extension students with a multitude of options regarding their learning pathways, with no option leading to a "dead end" or "terminal" point beyond which no formal learning can take place.

> CONCLUSION 11: There appears to be some merit to the charge that community colleges/technical institutes have stratified educational programs, although not as extensively as critics claim.

In terms of the debate reviewed earlier, that CC/TI "track" their curriculum students into educational program areas roughly commensurate with their socioeconomic status, the findings of this study suggested the possibility that this does occur, although certainly not with the regularity and extensiveness claimed by community college critics.

Although a positive relationship was detected between students' socioeconomic status characteristics and the educational program area in which they enrolled, this relationship was neither consistent across all socioeconomic variables, nor was it a particularly strong relationship. For example, the higher the students' primary income and educational level, and the parents' educational level, the more likely were those students to be enrolled in COL-TR programs. Conversely, the lower the students' level with respect to those characteristics, the more likely they were to be enrolled in VOC programs; however, no such relationship was observed with respect to the occupational status of the students' head-of-household. In addition, whereas a positive relationship was observed between socioeconomic status characteristics and educational program area selection, the strength of that relationship was consistently weak, as measured by a variety of statistical correlation tests. A third confounding factor was that the socioeconomic status characteristics of students enrolled in TECH program areas were considerably more heterogeneous than those of students in either COL-TR or VOC program areas. Given these limiting conditions, the implication that CC/TI pervasively and systematically "track" their lower socioeconomic status students into TECH and VOC programs as a matter of unwritten policy appears to be an oversimplification and an unsupported generalization.

To the extent that relationships between a student's socioeconomic status and educational program enrollment occur, another rebuttal can be offered to critics' charge that systematic institutional tracking takes place. It is quite possible that social forces, operating through the family and/or the public elementary and secondary schools, influence students from different socioeconomic status groups to choose different postsecondary educational programs, or to be motivated to differing degrees. If such is the case, the students, by their own choices and motivations, are selecting curricula that are related to their socioeconomic status rather than the institution deliberately tracking its students.

Under those circumstances, prior social conditions are largely responsible for the resulting educational stratification and its subsequent perpetuation by CC/TI. As suggested by Jencks et al. (1973), the remedy to that situation may be found not in altering the educational system alone, but through a fundamental change in the structure of society itself--particularly through the redistribution of public services and economic resources to individuals and families.

On the other hand, since the findings of this study failed to demonstrate conclusively that community college critics are completely wrong, some very real moral and ethical questions arise which CC/TI educators must confront.

The first is the question of the extent to which CC/TI practice an open-door policy and preach an egalitarian educational philosophy at the institutional level, but actually represent to the student a meritocratic and highly selective educational system at the program level. Given the primary function of being a teaching rather than a research institution, and given the dedication to principles of "mastery learning" (Bloom, 1969), there is no compelling reason why CC/TI should base admission to any educational program on high school graduation, high school equivalency, or any standardized examination, unless the number of applicants for admission to a program exceeds the institution's facilities or other resource capabilities. If an institution denies students admission to TECH and/or COL-TR programs on the basis of the foregoing criteria, that institution is in effect enforcing a policy of socioeconomic tracking, since those who are more likely to lack the proper credentials also are most likely to be from a lower socioeconomic status background.

A second question is the degree to which the professional counseling program assists students who are "academic risks" by guiding them through a process of exploration, choice, and rational decision-making rather than being committed to a "sorting out" or "cooling out" function (Zwerling and Park, 1974, p. 14), where these students are "carefully guided toward a decision to select a low-level career or to drop out." If the academic advising and counseling program is geared toward the latter commitment, then again, the institution is contributing to the tracking of its students on the basis of socioeconomic status.

The third issue to be confronted is that if CC/TI are underestimating their financial assistance program needs, as inferred in an earlier conclusion, and are consequently failing to award adequate assistance to their low-income students, are they not in effect encouraging those students to enroll in VOC rather than TECH or COL-TR programs, since the immediate costs will be less for a program of shorter duration? If such is the consequence of inadequate financial assistance programs, the net effect again is to contribute to a system of tracking based on socioeconomic status.

Other implications derived from the foregoing analyses, conclusions, and subsequent discussion are basically theoretical and methodological in nature. Given the results of the hypothesis testing regarding relationships between socioeconomic status characteristics and academic ability variables with educational program area of selection, one theoretical implication is that neither the conflict theory of social stratification nor the functional perspective were conclusively rejected, since relationships predicted by both formulations were observed. One potential explanation for this occurrence is the possibility suggested by Lenski's (1966) theoretical efforts and Dahrendorf's (1959) and Coser's (1967) implication that the two theoretical perspectives somehow may not be dichotomous. Rather, each may be a part of a larger explanation yet to be formulated.

Methodologically, the finding that primary income was positively correlated with the dependent variables, while student's income and parents' income were not, implied that the rationale for constructing primary income as a separate variable was essentially correct. When dealing with a sample population of students with broad variations in age characteristics, it appeared erroneous to assume that either parents' or student's income should be automatically used as a measure of socioeconomic status. Rather, it should be dependent upon whether the student was essentially self-supporting or dependent upon his parents. However, when the same rationale was employed to determine occupational status, no positive correlation was observed between the occupational status of the student's head-of-household and the dependent variable, thus confounding methodological interpretation. Perhaps the only viable explanation to be given for the observation of positive correlations between other socioeconomic status characteristic variables and the dependent variable is that the occupational measures employed were too crude to yield the predicted relationship.

Recommendations for Further Research

Based on the limitations of breadth and depth defined for this study, and on the issues raised as a result of research findings, 11 categories of recommendations for further research are offered.

1. Research similar in design and scope should be conducted with public four-year college/university students to describe their characteristics, estimate changes in their characteristics over time, and determine the extent to which North Carolina's public four-year colleges/universities serve the same segments of the population as the CC/TI so as to indicate areas of possible duplication of efforts.

2. In-depth profiles should be constructed for special student groups enrolled in CC/TI. Specific student groups would be the older students (over 25 years of age), nonwhite students, lower-ability students, low-income students, part-time and evening students, special credit and general education students, students who did not graduate from high school, and veterans.

3. Further analysis should be made of COL-TR students to determine if a substantial number of "new" students have enrolled in this program area. If retrenchment in institutional offerings becomes necessary, such information would be useful in determining relative educational opportunities to be offered.

4. Further analysis should be made comparing data from this study on extension students with respect to Phillips' (1970) report to determine changes in student characteristics which have taken place.

5. A study of older adults and non-high school graduates should be conducted to determine if their lack of enrollment is due to a shortage of relevant educational opportunities offered by CC/TI, a low level of motivation among those adults, or because their educational needs are being served by other organizations and/or agencies.

6. Further analysis should be conducted to study the effects of distance, publicity, financial assistance, and choice of institution when analyzing students by demographic and socioeconomic status characteristics.

7. More intensive research should be initiated to study the degree to which high school counselors and teachers serve as sources of information and influence among students who eventually attend CC/TI.

8. Research should be conducted to determine the relative contribution of CC/TI to the economic development of the State.

9. The impact of CC/TI on the out-migration of graduates from rural to urban areas should be studied to evaluate whether or not those institutions contribute to or hinder rural development in the State.

10. Further analysis should be made of data from this research study to determine if the relationships observed between curriculum students' socioeconomic status characteristics and educational program selection also exist among extension students.

11. Additional research should be conducted to examine the extent to which there is a relationship between students' socioeconomic status and the type of higher education institution they enroll in so as to determine if and to what degree a system of educational tracking exists within and between institutions.

PROFILE OF STUDENTS IN NORTH CAROLINA COMMUNITY COLLEGES AND TECHNICAL INSTITUTES

VOLUME I -- APPENDIX B

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This project was supported by the North Carolina Occupational Research Unit, Vocational Education Amendments of 1968 (P.L. 90-576) Title I--Part C, Sec. 131 (b); the Department of Community Colleges; the North Carolina State Board of Education; and the Department of Adult and Community College Education, North Carolina State University, Raleigh, North Carolina 27607

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SUMMARY

A study was made of student value orientations toward education, the major objectives of which were to:

--Determine from a selected list of 11 reasons for continuing education what value orientations toward education persisted among curriculum (credit) and extension (noncredit) students enrolled in the North Carolina Community College System, using an adaptation of Houle's typology for analysis;

--Ascertain how these student value orientations toward education differed with respect to program area selection (both credit and noncredit), demographic variables (age, sex, and race), and socioeconomic variables (primary income, occupation of head-of-household, and level of student's education);

--Determine from a selected list of nine which institutional characteristics most influenced curriculum and extension students in their selection of an institution in which to continue their education; and

--Determine how those institutional characteristics differed among students with respect to the programmatic, demographic, and socioeconomic variables.

The instrument developed for this study was used to gather data from 10,074 students enrolled in 7 community colleges and 9 technical institutes of the North Carolina Community College System. A two-stage, stratified, circular-systematic sample design was used in selecting the institutions and the students. The data were subjected to (1) factor analysis to determine the extent to which 11 reasons for continuing education approximated an adaptation of the Houle typology; (2) the construction of rank-orders of reasons for continuing education and the most influential institutional characteristics; and (3) the determination of significant differences in rank-orders through utilization of the Mann-Whitney U or the Kruskal-Wallis One-Way Analysis of Variance tests.

The major research findings were:

--Factor analysis of the 11 reasons for continuing education produced a typology for analysis consisting of 4 basic value orientations toward education: Vocational-Monetary, Improvement-Learning, Social-Cultural, and External Expectations-Escape.

--Curriculum (credit) students were primarily Vocational-Monetary oriented, whereas extension (noncredit) students were primarily Improvement-Learning oriented toward education.

--Few students were primarily External Expectations-Escape oriented toward education. The Social-Cultural orientation toward education generally increased in importance as age, primary income, and level of student's education increased.

--The institutional characteristics most influential in the selection of an institution were location (nearness to student's home) and programs (courses available). Next in importance were low tuition cost and quality of instruction.

--The institutional characteristics most influential in the selection of an institution differed with respect to certain demographic and socioeconomic variables. Among curriculum (credit) students, age, race, sex, primary income, and level of education were associated with significant differences in influential institutional characteristics; among extension (noncredit) students, age and primary income were associated with significant differences.

INTRODUCTION

To understand the adult learner's reasons for continuing educational pursuits is an important starting point in research within community colleges/technical institutes (CC/TI) of the North Carolina Community College System (NCCCS). Bushnell (1973) reported that the equivalent of 2.5 million full-time students were enrolled in CC/TI in the United States in 1973. Dr. Benjamin A. Fountain, Jr., President of the North Carolina Community College System, recently reported a dramatic increase in enrollment in the NCCCS for the 1974-75 academic year.[1] In light of this increase in participation within the System, a study of student value orientations toward education among those currently enrolled seemed appropriate.

The Problem Defined

Adults participate in continuing education for a variety of reasons. According to Burgess (1971), some adults continue educational pursuits in quest of additional knowledge and for general learning improvement. Others feel a need to prepare themselves for service to mankind or to realize a greater degree of cultural attainment. Still others, through continuing educational experiences hope to secure a better job and/or to earn more money in a job. Another segment of adults continue their educational pursuits because of pressure from various sources, such as parents, employer, or spouse, or simply because of a need to escape. Since there are differences in the reasons adults give for continuing educational pursuits, it is important to know to what extent differences exist among students in the NCCCS. To ascertain those differences among the respondents in this study, Research Question 14 was posed.

Research Question 14

> What reasons do community college/technical institute students give for continuing their education?

If differences are associated with various individual student characteristics, that knowledge should be made available.

North Carolina community colleges/technical institutes were developed with a common core of institutional characteristics; thus, it is important to know how influential those characteristics are in the perception of students as they select a particular institution to attend. Research Question 15 was designed to probe for this information.

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[1] Address to the Presidents' Conference, Charlotte, North Carolina, July 21, 1974.

Research Question 15

> What five characteristics of the CC/TI most influenced students in their selection of an institution to attend?

Again, if differences in institutional characteristices are associated with certain student characteristics, those associations should be determined.

Program Area of Selection

To pursue further student value orientations toward education, the association between program area of selection and student characteristics and/or institutional characteristics should be determined.

Rationale

An understanding of why CC/TI students participate in educational pursuits is needed (1) so that the various existing theories and models can be supplemented by a research effort dealing exclusively with NCCCS students; (2) to enhance the possibilities for greater participation in continuing education among North Carolina adults; and (3) to facilitate the quantity and quality of learning experiences for NCCCS students through understanding their value orientations toward education. Likewise, an understanding of those institutional characteristics deemed most influential by currently enrolled students is needed (1) so that NCCCS planners and programmers can have a basis for determining which characteristics are considered the most and the least influential; (2) so that institutional characteristics may be evaluated in the light of student opinion rather than the opinions of administrators and programmers only; and (3) so that future planning and priorities may reflect those characteristics which students value the most.

Purposes and Objectives

The purposes of this study were: (1) to ascertain the reasons for continuing their education among NCCCS students and to use a model in interpreting those reasons. Through such interpretation, value orientations toward education could be ascertained; (2) to determine those institutional characteristics perceived by currently enrolled NCCCS students to have most influenced them in selecting a particular institution to attend; and (3) to determine those students characteristics and/or institutional characteristics that affected the students' program area choice.

Given the foregoing purposes, the objectives of the study were to determine: (1) the major value orientations toward education of CC/TI students; (2) whether major value orientations toward education of CC/TI students differed with respect to selection of program area and certain demographic and socioeconomic variables; (3) which institutional characteristics were most influential among CC/TI students in their selection of a given institution to attend; and (4) whether there were differences among CC/TI students with regard to those institutional characteristics that most influenced them in selecting a particular institution to attend and program area selection and certain demographic and socioeconomic variables.

In meeting the objectives of the study, the following types of questions were answered:

1. How do student value orientations toward education differ with respect to program area selection, age, sex, race, primary income, occupation of head-of-household, and level of student's education?

2. In consideration of those institutional characteristics most influential among CC/TI students, how differently do students value those characteristics with respect to program area selection, age, sex, race, primary income, occupation of head-of-household, and level of student's education?

Significance

The findings of this research effort should enable adult educators in the NCCCS to determine:

--The value orientations toward education that characterize CC/TI curriculum and extension students.

--Whether or not those value orientations toward education that characterize curriculum and extension students differ with regard to their demographic characteristics as measured by primary income, occupation of head-of-household, and level of student's education.

--The value orientations toward education of curriculum students in different program areas, and whether or not those value orientations differ by program area.

--The characteristics of CC/TI that influence curriculum and extension students most in their decision to attend those institutions.

- --The characteristics of CC/TI that most influence curriculum and extension students in different program areas in their decision to attend those institutions, and whether or not these influencing characteristics differ by program area.

- --Whether or not those characteristics of CC/TI that most influenced curriculum and extension students in their decision to attend those institutions differed between the two types of students with regard to their demographic characteristics of age, race, and sex and their socioeconomic characteristics of primary income, occupation of head-of-household, and level of student's education.

- --If value orientation toward education differs among students, those differences should be taken into account in program planning. If assumptions about what students value have been considered in program planning, then the implications of this research should either strengthen or disclaim those assumptions.

- --If institutional characteristics that most influenced students are different, those differences should be considered in evaluating CC/TI characteristics by administrators and program planners.

Limitations

The reader is reminded that this study is part of a larger research effort. Consequently, all the data collected are not reported in this Appendix. While this report was designed to "stand on its own merit," the reader is encouraged to read the companion Appendix A for a more complete picture of the data and their interpretation.

It should be pointed out that the data for this research project were collected near the end of the Spring Quarter, 1974. As Cohen (1971, p. 82) said, "on the average, one-half of the first year dropout occurs during the first six weeks of the fall semester." Consequently, the students who comprised the sample for this study were for the most part persisters. Should a study of this type be replicated, some consideration should be given to the timing of data collection.

Definition of Terms

Certain terms that were used throughout this study are defined here for the convenience of the reader.

Curriculum (credit) students: those NCCCS students who are enrolled, part time or full time, in one of the following program areas: college-transfer, general education, special education, technical education, and vocational education.

Extension (noncredit) students: those NCCCS students who are enrolled, part time or full time, in one of the following program areas: academic extension, apprenticeship, fundamental education (Adult Basic Education, High School Diploma or Equivalency Certificate, Learning Laboratory), MDC Job Training Program, Manpower Development and Training (MDTA), new and expanding industry, occupational extension, and recreation extension.

Demographic factors: refers to such characteristics of individuals as age, sex, and race.

Institutional characteristics: as listed in this study, educational programs or courses available, financial assistance available, job placement services, location (nearness to the student's home), low cost, open-door admissions policy, quality of instruction, student-centered instruction and activities, and "other" to be specified.

North Carolina Community College System (NCCCS): the network of 57 public community colleges and technical institutes that offers a variety of educational programs for the citizens of North Carolina who are 18 years of age or older.

Occupation of head-of-household: the 12 classifications utilized by the U.S. Bureau of the Census were adopted for use in this study. In the analysis of data, farm employment categories were integrated into the other categories, reducing the number of items to the following six: professional and technical workers; business owners, managers, officials; clerical and sales workers; skilled craftsmen, foremen (not farm); operatives (operate a machine or vehicle); and unskilled service and domestic workers.

Primary income: respondents were asked if they provided more than half of their financial support, or if their parents provided more than half. In the former case, the student's income was taken as primary; in the latter case, the parents' income was considered as primary.

Rank order: an ordinal ranking procedure that utilizes some criterion or criteria on which the ranks are based. Rank-ordering thus assigns numbers to objects or variables and arranges them in numerical order.

Value orientation toward education: reasons students give for continuing their education. In this study the following 11 choices were used: to be able to contribute more to society, to be able to earn more money, to become more cultured, to gain a general education, to get a better job, to improve my reading and study skills, to improve my social life, to learn more things of interest, to meet interesting people, parents (or spouse) want me to go, and there was nothing better to do.

CONCEPTUAL FRAMEWORK AND RELATED LITERATURE

This presentation focused on a conceptualization of values from its psychological roots to the human psyche manifesting broad and general "verities" to its social applications in decision-making manifesting specific and individual preferences.

The conceptual framework on which the study was based follows certain basic assumptions concerning values:

--Values are observable, affectively charged preferences which strongly influence behavior in general, and choices in particular;

--Parents, educational institutions, peer groups, work groups, etc., functioning as avenues one travels in the socialization process, influence the acquisition of values;

--As a result, people tend to behave in ways which are common to the life style of the groups to which they belong or to which they aspire membership;

--As people behave in accordance with their life styles, they have values and needs that are different from those of persons with other life styles, accounting for different behavior and choices in life;

--Some sociologists maintain that life style is a function of one's socioeconomic status;

--If values are a function of life style and life style is a function of socioeconomic status, then values are a function of socioeconomic status (thus, choices are a function of socioeconomic status);

--Since social stratification is defined as structured inequality, the acquisition of values through socialization within a socioeconomic status may serve to perpetuate inequality;

--Other authors argue that socioeconomic status and values are not related, but that values and behavior (specifically, choices) are related--hence there is no perpetuation of class differences; and

--This study may shed some light as to which of the two theoretical positions stated in the latter two assumptions are relatively applicable to the NCCCS.

Values

Milton Rokeach's (1973) definitive work, The Nature of Human Values, was devoted to the study of human values in the United States. Rokeach perceived values as (1) the core concept in all the social sciences--as the major dependent variable in the study of society, culture, and personality; and (2) as the major independent variable in the study of social attitudes and behavior. His assumptions about the nature of human values were: (1) that the total number of values held by a human being numbers about 18; (2) that all men everywhere possess the same values, but in varying degrees; (3) that values are organized into value systems; (4) that the antecedents of human values can be traced to society and its institutions, to culture, and to personality; and (5) that the consequences of human values are manifested in virtually all social phenomena. Rokeach (1973, p. 5) defined a value as "an enduring belief that a specific mode of conduct or end-state of existence is personally or socially preferable to an opposite or converse mode of conduct or end-state of existence."

Influence of Values on Choice

Rokeach enlarged upon Kluckhohn's (1951) definition of values as conceptions of the desirable by saying that values are indeed preferences--not just conceptions of the preferable. The 18 or so terminal values of all human beings are implemented by instrumental values numbering several times more than 18, according to Rokeach.[1] Values have functions. They serve as (1) personal standards that lead one to take particular positions on social issues; (2) predispose one to favor a particular political or religious ideology over another; (3) guide the presentation of self to others; (4) help in persuading and influencing others; and (5) help persons rationalize what may seem inconsistent otherwise. Values serve in providing general plans for the resolution of conflict and for decision-making. In addition, values serve a motivational function, representing the conceptual tools and weapons used by humans in maintaining and enhancing self-esteem (Rokeach, 1973).

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[1] The 18 terminal values listed by Rokeach (1973) included: (1) a comfortable life, (2) an exciting life, (3) a sense of accomplishment, (4) a world at peace, (5) a world of beauty, (6) equality, (7) family security, (8) freedom, (9) happiness, (10) inner harmony, (11) mature love, (12) national security, (13) pleasure, (14) salvation, (15) self-respect, (16) social recognition, (17) true friendship, and (18) wisdom. As discussed in a later chapter, in pretest administrations of the instrument used in this research, the conclusion was reached that these categories are too broad and abstract (breaking down under analysis) to be used as reasons for continuing education in CC/TI.

Among Rokeach's (1973, pp. 17-19) many contributions to the study of values was the clear distinction he made between values and attitudes; i.e.:

> First, whereas a value is a single belief, an attitude refers to an organization of several beliefs that are all focused on a given object or situation. Second, a value transcends objects and situations whereas an attitude is focused on some specified object or situation. Third, a value is a standard but an attitude is not a standard. Fourth, a person has as many values as he has learned beliefs concerning desirable modes of conduct and end-states of existence, and as many attitudes as direct and indirect encounters he has had with specific objects and situations. Fifth, values occupy a more central position than attitudes within one's personality makeup and cognition, and they are therefore determinants of attitudes as well as of behavior. Sixth, value is a more dynamic concept than attitude, having a more immediate link to motivation. And, seventh, the substantive content of a value may directly concern adjustive, ego defense, knowledge, or self-actualizing functions while the content of an attitude is related to such functions only inferentially.

Adler (1956) viewed values as: (1) absolutes--as of "the mind of God," or those ideas that are "eternal"; (2) objects--as those objects that are perceived to satisfy needs or desires; (3) preferences--as priorities that are reflected in the decision-making process; and (4) terms of action--inferring values from behavior. In Adler's (1956, p. 482) words:

> "Value" then becomes a hypothetical construct--a kind of "meta-attitude"--not directly accessible to observation but inferable from verbal statements and other behaviors and useful in predicting still other observable and measurable verbal and nonverbal behavior.

This is consistent with the earlier definition by Allport (1937), who viewed values as core attitudes or sentiments that set priorities among preferences and give structure to one's life, and Kluckhohn (1951, p. 395), who defined a value as "a conception, explicit or implicit, distinctive of an individual or characteristic of a group, of the desirable which influences the selection from available modes, means, or ends of action," and a value orientation as (Kluckhohn, 1951, p. 411) "generalized and organized conceptions, influencing behavior, or nature, of man's place in it, of man's relation to man, and of the desirable and nondesirable as they may related to man-environment and interhuman relations."

Broom and Selznick (1968, p. 54) described a value as "anything that is prized or of benefit," whereas, Kluckhohn (1962, p. 289) expanded that definition to:

> Values do not consist in "desires" but rather in the desirable, that is, what we not only want but feel that is right and proper to want for ourselves and for others. Values are abstract standards that transcend the impulses of the moment and ephemeral situations.

Vander Zanden (1970, p. 57) viewed values as "the criteria or conceptions used in evaluating things (including objects, ideas, acts, feelings, and events) as to their relative desirability or merit."

Related literature regarding reasons adults continue in educational pursuits spoke to this matter of choice-making among various alternatives.

One of the very first attitudinal surveys was conducted at Syracuse University by Daniel Katz and Floyd Allport in 1931. Among other things, those researchers sought to determine what attitudes prevailed in the minds of students who chose to attend Syracuse University. About their study, Katz and Allport (1931, p. 9) wrote:

> . . . The true reasons for coming to college, no doubt, lie in most cases too far back in childhood to be adequately recalled.
>
> The items covering reasons for entering and remaining in college, therefore, should be regarded as informing, not upon its face value, but with respect to the values which students are accustomed to associate with college life, whether or not those values have played an effective part in their motivation.

Students were asked to check the three most important reasons for continuing their education at Syracuse from the following specific categories (Katz and Allport, 1931, p. 12):

(1) in order to prepare for a certain vocation;
(2) because of the social attractions or athletic opportunities of college life;
(3) because my parents wished it;
(4) because a person with a college degree can obtain a better position and earn more money;
(5) because a person with a college education has more prestige and a higher social standing;
(6) because of my interest in specific studies and my desire to pursue them further;
(7) because so many of my friends and relatives have gone to college that it seemed the thing to do;
(8) in order to show people that I have as good a mind as anyone;
(9) for general self-improvement in culture and ideals;
(10) for some other reason not mentioned.

When categories were collapsed for purposes of generalization into utilitarian reasons and scholarly or cultural reasons, the practical items received the greatest emphasis. Interestingly, Katz and Allport also asked the respondents to select one reason why they chose to attend Syracuse University, apart from the foregoing general reasons for continuing their education at that institution. The reasons given were: (1) nearness to where I live, (2) opportunities for self-support, (3) educational advantages of Syracuse, (4) parents are Syracuse alumni, (5) presence of friends, (6) influence of persons other than parents, (7) religious affiliations, (8) opportunities for good times, (9) athletic prestige, (10) student activities, and (11) reason unknown.

The general procedure utilized in the present study, therefore, has historical precedence dating back to 1931. Further, as discussed in a later section, Katz and Allport's (1931, p. 354) understanding of attitudes and values has stood the test of time; that is, "attitudes are more frequently regarded as sets for certain kinds of verbal response expressing value."

It was Cyril O. Houle who, in 1961, produced a model for inquiry into the value orientations of adult learners. Houle asked 22 continuing education learners why they sought continuing education experiences. Three general categories emerged from their replies: the goal-oriented (the desire for episodic learning experiences which apparently is motivated according to specific needs); the activity-oriented (the desire for social contact); and the learning-oriented (the desire to learn for the sake of learning, with educational experiences constant rather than sporadic). Houle (1961, pp. 29-30, 53) saw the implications of his study as a guiding model for further research:

> . . . No one of the three orientations is, after all innately better than the others, and to bring matters back to a more proper balance it may be well here at the end to re-state a point made at the beginning of the analysis of the interviews. All of the people in the sample are basically similar; they are all continuing learners. They have goals; they enjoy participation; and they like to learn. Their differences are matters of emphasis. . . .
>
> If adult learners really fall into these three groups, this fact will be useful in understanding and guiding adult education. But we must not be rigid in forcing people into such categories, for the aims of education are as broad as the range of human perfectibility permits.
>
> . . . .
>
> Each of these three views is sound but not sufficient, since it [adult education] cannot comprehend the guiding conceptions of all who seek to learn. Anyone who believes all adult education can be fitted into a single neat pattern is either hearing only the reverberations of his ideas or clinging to the uniformities of a day which is now past.

Using the Houle typology, Sheffield (1964) prepared a list of 58 reasons why adults said they participated in adult education courses. Included in the list were 16 reasons that related to each of Houle's components, and 10 that could not be clearly identified with either component. From 453 respondents representing university-based continuing education programs in the United States, Sheffield (1964, p. 16) extracted five basic orientations:

> (1) a learning orientation--the pursuit of knowledge for its own sake;
> (2) a desire-activity orientation--the pursuit of social contact, regardless of course content;
> (3) a personal-goal orientation--the pursuit of specific, personal objectives;
> (4) a societal-goal orientation--the pursuit of specific social or community-centered objectives; and
> (5) a need-activity orientation--the pursuit of relevance by doing, regardless of social contact, or course content.

Other researchers who developed instruments from which adults were asked to select reasons why they were continuing educational pursuits were Wanderer (1961), Hall (1965), and Johnstone and Rivera (1965).

Roger Boshier (1971, p. 3) acknowledged the necessity for appropriate instrumentation when he said:

> It is almost impossible to study "reasons for participation" in a manner amenable to cross-cultural and interinstitutional replication, without the development of an appropriate measuring instrument.

In his factor analytic exploration of Houle's typology, Boshier's Education Participation Scale, composed of 48 items, was administered to 233 randomly selected participants who represented a high school evening program, a university extension program, and a workers' education association program, all based in New Zealand. The programs were noncredit, nonvocational in nature, and all were offered in the evening. From the first-order factoring of the 48 items in the scale, 14 "motivational orientations" emerged (Boshier, 1971, p. 9):

(1) *social welfare*--to contribute to society;
(2) *social contact*--to meet interesting people;
(3) *other-directed professional advancement*--to meet employer's requirements, for instance;
(4) *intellectual recreation*--to escape boredom, frustration, or routine of daily living;
(5) *inner-directed professional advancement*--to get a better job, to increase competence in a job;
(6) *social conformity*--to conform to the expectations of people in the groups to which one belongs, or to the expectations of people in the groups to which one aspires to membership;
(7) *educational preparedness*--to clarify what one wants to be doing five years from the present, or to assist one when going overseas (in language preparation, for instance);
(8) *cognitive interest*--to learn for the sake of learning;
(9) *educational compensation*--to fill gaps in one's previous educational experience, to escape the intellectual narrowness of one's occupation;
(10) *social sharing*--to share a common interest with someone else, such as a friend or spouse;
(11) *television abhorrence*--to escape television;
(12) *"social" improvement and escape*--to escape an unhappy relationship;
(13) *interpersonal facilitation*--to improve one's social life; and
(14) *education supplementation*--to help one earn a degree, or certificate; to acquire knowledge that will help one with other educational courses

Second-order and third-order factoring produced a "boiling down" of these 14 orientations to a 4-item typology not substantially different from Houle's original typology.

Second-order factors were: (1) interpersonal improvement/escape, (2) inner versus other-directed advancement, (3) social sharing, (4) artifact (conformity), (5) self-centeredness vs altruism, (6) professional future orientedness, and (7) cognitive interest. Third-order factors were: (1) other-directed advancement (job-related factors), (2) learning for a future activity (learning-oriented factors), (3) self vs other-centeredness, and (4) social contact (social factors).

Burgess (1971) pointed out at least four approaches that have been utilized in attempting to determine why adults continue their education: (1) to analyze the kinds of activities in which the adult was participating and to infer reasons for that participation (Woodward, 1959; Johnstone and Rivera, 1965; McGee, 1965); (2) to ask the student to state in his own words why he participated in a given course (Hoy, 1933; Williams and Heath, 1936; Deane, 1949); (3) to ask the student to check from a list of reasons why he participated in a given activity (Nicholson, 1955; Wanderer, 1961; Hall, 1965); and (4) to concentrate on the individual's orientation toward education by using Houle's basic typology (Houle, 1961; Sheffield, 1964).

The literature indicated that reasons given for adult participation in continuing education can be clustered into a limited number of groups. Previous studies, however, utilized limited and homogeneous samples for the most part. Further, no two studies arrived at the same clusters, though similarities were common.

In his study of reasons adults participate in group educational activities, Burgess (1971, p. 10) hypothesized that the reasons can be clustered into eight groups:

(1) the desire to know for the sake of knowing;
(2) the desire to gain knowledge in order to achieve a personal goal;
(3) the desire to gain knowledge in order to achieve a social goal;
(4) the desire to take part in a social activity;
(5) the desire to escape some other activity or situation;
(6) the desire to comply with general social pressures exerted by acquaintances, friends, relatives, or society as a whole;
(7) the desire to comply with formal requirements; and
(8) the desire to study alone or just to be alone.

His research instrument, Reasons for Educational Participation, contained 70 possible reasons for participation to which 1,046 adults taking 54 different courses responded. The participants were, for the most part, St. Louis urbanites who were predominately white-collar workers. Sex was evenly divided, educational level was higher than the national adult average, age was younger than the average of the total population, and most were married. Through factor analysis, Burgess found that 55 of his 70 reasons factored into 7 categories. The desire to comply with social pressures and the desire to be alone did not emerge. The desire to reach a religious goal did emerge, but accounted for only 3.4% of the variance.

Morstain and Smart (1974), utilizing Boshier's Education Participation Scale, attempted to replicate Boshier's study in administering the scale to 648 adults enrolled in part-time course work at Glassboro (New Jersey) State College in 1972. The respondents ranked each of the 48 items from 1 (very little influence) to 9 (very much influence). The respondents were classified by sex and three age groups--20 or less, 21 to 40, and 41 and over. The "cluster" of reasons that emerged included the following components (Morstain and Smart, 1974, p. 90):

(1) social relationships--the desire to develop or improve one's social relationships;
(2) external expectations--the desire to pursue study due to conditions related to instructions, suggestions, or requirements from individuals or agencies;
(3) social welfare--to contribute to society;
(4) professional advancement--the desire to advance within one's profession;
(5) escape/stimulation--the desire for stimulation or the desire to escape from a dull or boring environment; and
(6) cognitive interest--the desire to learn things of interest.

Thus, the structures of Boshier and Morstain and Smart were substantially similar. Morstain and Smart (1974, pp. 95-96) concluded:

> The results of this study indicated that the importance of certain clusters of reasons for participation showed noticeable variation across different age-sex groupings of adult learners. Younger adults scored relatively higher on the social relationships scale; men were somewhat more motivated by external expectation reasons; and women scored relatively higher than did men on the cognitive interest scale. With respect to social welfare reasons, men had relatively similar scores at each age level, while scores for women tended to decline with increasing age.

Morstain and Smart remarked that their study might be limited by virtue of the possibility that as institutions differ, so do student characteristics and value orientations. Thus, a study at one institution would not necessarily apply in a heterogeneous application, as in the present study where students were from a variety of backgrounds and classes and represented 16 different educational institutions.

The factor analysis results of the foregoing studies of reasons for continuing education are summarized in Figure 1.

Socialization and Acquisition of Values

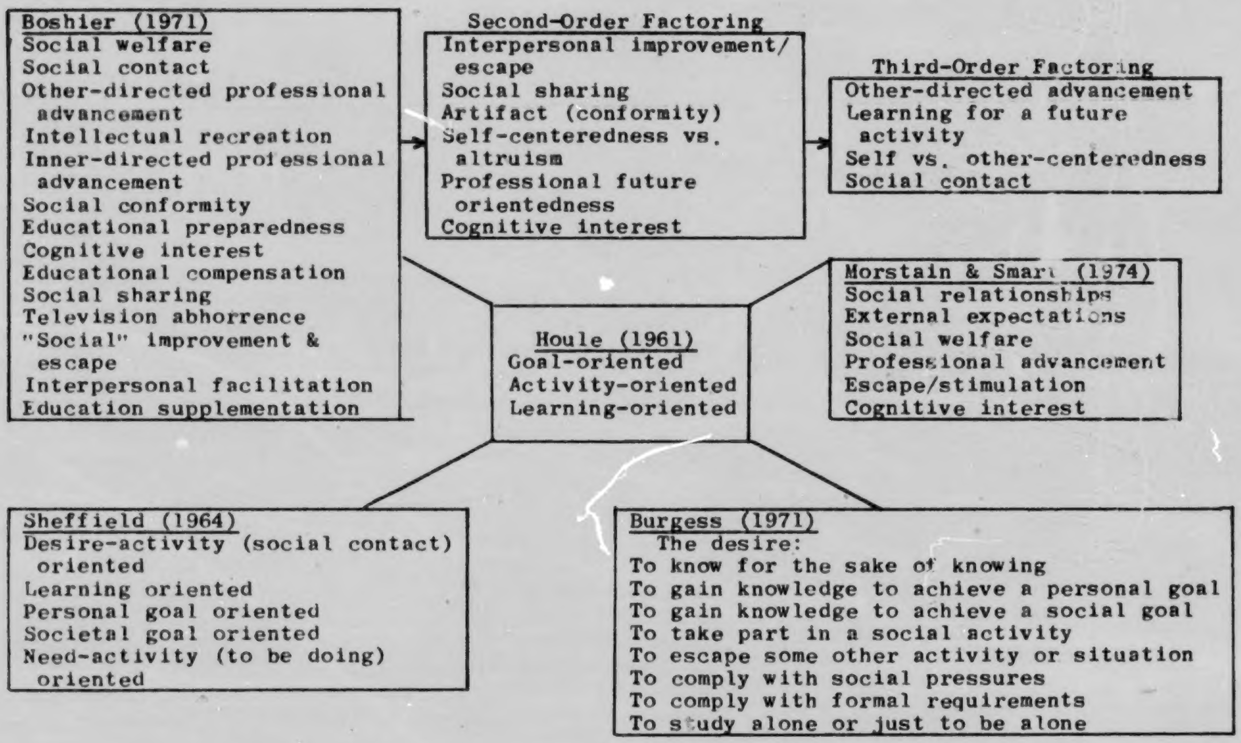
Van Zeyl (1974) suggested that values are inculcated as a result of cultural and, more particularly, subcultural influences--family, school, peer groups, work groups, etc. Williams (1970, p. 439) wrote in his sociological interpretation of American society:

> Looking at institutions from the outside . . . we see them as sets of norms by which people are able to know what is expected and required. In addition . . . institutions represent internalized values that are felt as being binding for the personality--conscience, life goals, preferred subjective states of various kinds. We come to accept as valuable and right, for us, some of the standards of conduct and goals of effort that are held by our parents, our peers, or others with whom we identify or wish to emulate.

Jacob (1957, p. xiii) defined values, or value patterns, as:

> . . . preferences, criteria or choices of personal or group conduct. A value in this sense is a standard for decision-making, held by an individual student, and normally to be identified when it is articulated in an expressed verbal statement or overt conduct. . . . Such an approach to the study of values implies examination both of the actual behavioral choices of students and of the structure of beliefs to which such choices are related.

Hence, choices may be a function of the socialization process itself. One chooses what he is "expected" to choose. Program area selection may be the result of the unconscious forces of socialization, for instance.



Boshier (1971)
Social welfare
Social contact
Other-directed professional advancement
Intellectual recreation
Inner-directed professional advancement
Social conformity
Educational preparedness
Cognitive interest
Educational compensation
Social sharing
Television abhorrence
"Social" improvement & escape
Interpersonal facilitation
Education supplementation

Second-Order Factoring
Interpersonal improvement/escape
Social sharing
Artifact (conformity)
Self-centeredness vs. altruism
Professional future orientedness
Cognitive interest

Third-Order Factoring
Other-directed advancement
Learning for a future activity
Self vs. other-centeredness
Social contact

Houle (1961)
Goal-oriented
Activity-oriented
Learning-oriented

Morstain & Smart (1974)
Social relationships
External expectations
Social welfare
Professional advancement
Escape/stimulation
Cognitive interest

Sheffield (1964)
Desire-activity (social contact) oriented
Learning oriented
Personal goal oriented
Societal goal oriented
Need-activity (to be doing) oriented

Burgess (1971)
The desire:
To know for the sake of knowing
To gain knowledge to achieve a personal goal
To gain knowledge to achieve a social goal
To take part in a social activity
To escape some other activity or situation
To comply with social pressures
To comply with formal requirements
To study alone or just to be alone

Figure 1. Summary of factor analyses of reasons for continuing education

Influence of Life Style on Values

An individual's life style is a configuration or pattern of living that includes his own approach to the units of experience. Generally speaking, one's life style is determined by such factors as origin of birth, race, socioeconomic characteristics, religion, and nationality. In other words, the environment interacting with the individual through the socialization process is the determining factor of life style. A person's life style is influenced by his participation in certain groups, by his relationship with significant others. Life style is a pattern of living that emerges from a social context which includes behavior as well as the material world.

Goffman (1968, p. 22) suggested that "persons in the same social position tend to possess a similar pattern of behavior." Lasswell et al. (1965, p. 502) put the matter in more direct terms; i.e.:

> Social class refers not to associations but to culture as revealed by a person's speech patterns; his ways of thinking; his manners; his taste in clothes; furniture, art, and music; and the way he rears his children. While people do not need to be in interaction to constitute a social class according to this definition, they are still real, whole people whose social class is judged as an integral category by those with whom they are in interaction.

Hence, among other things, relationships and the possession of material goods result in characteristic behavior among those whose relationships and material goods are similar. This theory implies that as individuals behave in accordance with their life styles, they possess values and needs that are different from persons with other life styles, thus accounting for different behavior and choices in life.

Max Weber's conceptions of class, status, and power defined class as a number of people sharing in common, typical life-chances, power as the ability to secure one's ends, and status as a social position which receives varying degrees of honor (Tumin, 1967). In his writing on Weber, Tumin (1967, p. 12) explained:

> The term life-styles refers to the distinctive character of status groups, in which membership is based upon comparable degrees of honor, in contrast to life-chances--the distinctive characteristics of economic classes, in which membership is based upon an individual's role in production. One can approach the study of life-styles

> from two different directions, either by asking what are the life-styles of those who share common socioeconomic positions, or, what are the socioeconomic attributes of those who share common styles of life.

Goffman (1968) contended that characteristic class symbols are perpetuated in each strata of society; hence, one possesses a "sense of belonging" to one's "class." Goffman (1968, pp. 28-29) continued:

> The manner prescribed by the members of a class tends to be an expression in miniature of their style of life, or their self-conception, and of the psychological needs generated by their daily activity. In other words, social style carries deep expressive significance. The style and manners of a class are, therefore, psychologically ill-suited to those whose life experiences took place in another class. Persons in the same social position behave in many ways that are common to all the occupants of the position as well as particular to them.

Van Zeyl (1974, p. 4) pointed to Reissmann's earlier argument for the class subculture:

> The theoretical basis for the formulation of a class subculture is that the values, life styles, goals, and behavior of the several classes are distinct and different. Even further, the assumption is made that the cultural expressions within any one class are sufficiently cohesive and consistent to distinguish them from those of any other class. The class subculture, then, is a cultural unity and there arises the distinct reality of a middle-class culture, an upper-class culture--or as many other variations as can be found and identified. . . . This new concept of class represents more than just an adjustment of old notions to fit changed conditions. To refer to classes as separate subcultures is to transform the very concept of class itself.

With such a theoretical stance, one is freed from the "necessity" of establishing cutting points for the delimitation of specific class groupings. Rather, subcultural variations are noted which are broadly defined and which free the social scientist from out-moded models of stratification. One's age, sex, race, level of education, occupation, and income are components which, in interaction, may determine one's life style.

Life Style as a Function of Socioeconomic Status

Van Zeyl (1974, p. 6) quoted Talcott Parson's definition of social stratification as "the ranking of units in a social system in accordance with the standards of a common values system," and concluded that "under such a system the differential ranking of 'subunits' . . . occurs as the result of differential embodiment of the basic values of the society." Thus, if values are a function of life style and life style is a function of socioeconomic status, then values are a function of socioeconomic status. At least the literature cited would lead one to that conclusion.

Further, educational choices would seem to be a function of socioeconomic status. Brookover and Gottlieb (1964, p. 10) assessed the educational implications of the Lynd concepts of class structure in the United States as follows:

> Two major conclusions may be drawn from the study of Middletown. The first is that lower-class parents, even though they recognize the value of schooling, are less likely than middle-class parents to instill in their children a desire for a formal education. The second is that lower-class children are penalized within the school system, since they do not possess the symbols, attitudes, and behavior characteristics valued by the dominant class group.

Hyman (1953) suggested that upper classes value the personal aspects of work--congeniality, interest, and qualifications--more highly than the lower classes, who put greater emphasis upon direct economic considerations such as security, wages, and steady employment. Rokeach (1973, p. 62) observed that the value differences between the very rich and the very poor "almost suggest they come from different cultures." Rokeach concluded that values vary as income varies, becoming more pronounced as the two extremes of affluence and poverty are compared, and that values vary with amount of education. He wrote (Rokeach, 1973, p. 63):

> Whichever measure of socioeconomic status is employed, income or education, pervasive value differences are found between those of lower and higher status. But between the two, education is a somewhat better indicator than income of social status, a finding that supports a good deal of sociological research. There is a somewhat larger value gap between the educated and the less educated than between the rich and the poor, but either way the value gap is great.

August Hollingshead (1949) concluded from his study of Elmtown's youth that students within the social structure generally reflected the attitudes, values, and behavior patterns characteristic of their parents. More recently, Deutsch (1964) suggested that most "middle-class" children have imprinted upon their minds at a very early age the importance of school; and, generally speaking, "lower-class" children do not come with positive attitudes concerning the values of school.

Mortimer found that distinctive attributes of fathers' occupations are related to values that are transmitted to sons and reflected in their vocational choices. These attributes are: (1) the extent of work autonomy, (2) the characteristic rewards of the occupation, and (3) the functional foci or predominant functions of work activities. Mortimer (1974, pp. 1295-1296) concluded from his study of patterns of intergenerational occupational movements that:

> Examination of the distributions of students' work preferences by their fathers' occupations further revealed a strong tendency toward occupational inheritance. When sons did not choose their fathers' work, there was some indication that they still sought the occupational experiences and rewards obtained by their fathers.
>
> . . . .
>
> The distinctive characteristics of the father's work, in addition to its social-status level, influence the son's career decision. From these data, it may be inferred that value preferences associated with salient features of the father's work experience are transmitted to sons. Parallels between the father's occupation and the son's senior vocational preferences suggest that the effects of this socialization experience in the family do not disappear during the four years in college. To the contrary, a pattern of increasing influence is apparent.

However, Mortimer (1974, p. 1295) conceded that his findings "are probably most significant in influencing the career decisions of men at the higher levels of the stratification structure."

Values as a Function of Socioeconomic Status

As with life style, measures of socioeconomic status are important considerations in the understanding of values.

The relationship between social stratification and values is inherent in Biesanz and Biesanz' (1973, p. 258) definition of stratification as "an institutionalized system of social inequality in a community or society that ranks families in categories or strata according to their share of scarce and desirable values such as wealth, prestige, and power." (One may note in this definition the implication of the subculture approach referred to earlier.) Williams (1970) defined stratification as evaluative social ranking along a scale of superiority-equality-inferiority according to some commonly accepted basis of value-ranking, while Tumin (1967, p. 12) identified social stratification as "the arrangement of any social group or society into a heirarchy of positions that are unequal with regard to power, property, social evaluation, and/or psychic gratification."

Thus, since social stratification is defined as structured inequality, one might assume that the acquisition of values through socioeconomic status (the possession of certain socioeconomic characteristics) may actually serve to perpetuate inequality.

Values and Behavior

In his study of academic achievement and the structure of competition, Coleman (1959) suggested three important propositions: (1) that adolescents do not always reflect the values and attitudes of their parents; (2) that social class alone will not indicate the types of attitudinal orientations held by individuals; and (3) that educational institutions differ in social climates, and those differences alter the impact of social class on values, attitudes, and behavior. As can be readily seen, the literature is varied in its treatment of social stratification, in general, and its interpretation of the implications of stratification with regard to education, in particular.

One should not be unmindful, however, of the possibility that value orientations at a given point in time may be inconsistent with preconceived notions about class distinctions. As Getzels (1972, p. 505) suggested:

> Growing up successfully involves the selection and acquisition of a satisfactory set of values from among available alternatives. The central problem for those growing up at this time is the rapid transformation our values have been undergoing--a circumstance which denies them an explicit and stable set of values from which to choose and with which to identify.

Getzels identified the dominant secular values of two generations ago as: the work-success ethic, future-time orientation, independence or the separate self, and Puritan morality. He pointed out that while the sacred values of democracy, equality, human perfectability, and freedom have remained relatively stable and constant in this nation, transitional values have undergone and continue to undergo crucial alterations. For instance, in the 1930s transitional values were transformed (1) from the work-success ethic to the ethic of sociability, (2) from future-time orientation to present-time orientation, (3) from personal independence to group conformity, and (4) from Puritan morality to moral relativism. Now, in the 1970s, Getzels (1972, pp. 513-514) suggested that values have again undergone a transformation, i.e.:

> (1) The traditional work-success ethic, which shifted to the ethic of sociability, is being transformed into an ethic of social responsibility; . . . (2) the traditional future-time orientation ethic, which shifted to the present-time orientation ethic, is being transformed into an ethic of relevance; . . . (3) the traditional value of independence, defined as the separate self, which shifted to conformity as a value, is being redefined as meaningful independence and transformed into personal authenticity as a value; . . . and finally (4) the traditional value of Puritan morality, which shifted to moral relativism as a value, is being transformed into idealism and moral commitment as a value.

Yet, Van Zeyl (1974, p. 10) may have been right when he suggested that "the structural and cultural heterogeneity of modern society renders a dominant value order highly implausible."

Toby (1957) posited that one reason why lower-class students generally receive less education in comparison with middle-class students is because school system personnel, who possess middle-class values themselves, penalize those students who do not exhibit such middle-class values as cleanliness, punctuality, neatness, and so on. Because their value orientations are rejected, lower-class students feel rejected as persons. They may then be channeled into lower-status programs, if they persist at all, which result ultimately in lower-status occupations; all because of their "deficiencies" and almost irrespective of their academic ability.

Concerning this "cooling out" and "tracking" system in education, Hollingshead (1949, p. 369) wrote about school dropouts in his study:

> The withdrawees' job skills are limited to what they have learned from contact with parents, relatives, friends, and through observations and personal experience, largely within the community; no withdrawee has any technical training for any type of job; furthermore, few have plans to acquire it in the future. . . . The boys have some acquaintance with working on farms, washing cars, loading and unloading grain, repairing cars, driving trucks, doing janitor work, clerking in stores, and odd jobs, but their lack of training, job skills, and experience combined with their youth and family backgrounds severely limit their job opportunities.

Toby concluded that parents of middle-class children are probably better educated than those of lower-class students, and therefore are more capable of helping and understanding when problems in school arise. Furthermore (Toby, 1957, p. 266):

> [Middle-class parents] . . . are more eager to make [their child's] . . . school work seem meaningful to him by indicating, implicitly or explicitly, the occupational applications of long division or history; the verbal skills which he acquires as part of child training . . . prepare him for the type of training that goes on in school and give him an initial (and cumulative) advantage over the lower-class child in the classroom situation; and the coordinated pressure of parents, friends, and neighbors reinforce his motivation for scholastic success and increase the probability of good school adjustment.

If CC/TI curriculum program areas could be arranged in a hierarchical fashion from college-transfer to vocational education, one might assume that those students who possess less in terms of the measures of socioeconomic status would select vocational education. However, if there is a dominant value order which transcends measures of socioeconomic status, one would expect a heterogeneous grouping of students in all program areas.

Influence of Needs on Values

Boggs (1974) defined values as judgments of worth related to the satisfaction of needs, within the context of a social situation. In his study of behaving-valuing patterns of lower-class people, Boggs proposed that Rodman's (1963) concept of "value stretch" may be operative among lower-class persons who are expected to espouse the dominant values of society but whose resistance to the situation allows them to accept lesser values. Boggs (1974, p. 309) wrote that "the purposes of adult basic education . . . are usually phrased in terms of personal development and of adjustment of marginal individuals to the configurations of the dominant way of life." That is to say, educational programs for the poor usually function to allow them to enter society's mainstream, rather than allowing them the freedom and creativity to transform their own world.

One may then ask: To what extent is the CC/TI reaching the poor (or, to what extent are the poor resisting programs in the CC/TI)? If the poor are resisting existing programs, for whatever reason, then a possible ameliorative alternative would be the "value stretch."

Friedenberg was an outspoken critic of the public school system, which appears to replicate middle-class standards in the face of lower-class students. Friedenberg (1964, p. 24) contended that:

> To reach the dropouts and give them a reason for staying, the school would have to start by accepting their raison d'etre. It would have to take lower-class life seriously as a condition and a pattern of experience, not just as a contemptible and humilating set of circumstances that every decent boy or girl is anxious to escape from. It would have to accept their language, their dress, and their values as a point of departure for disciplined exploration, to be understood not as a trick for luring them into the middle class but as a way of helping them to explore the meaning of their own lives.

In examining the influence of needs on values, it seemed appropriate to attend to Abraham Maslow's needs hierarchy and its relationship to values. In comparing the results of his studies with those of Maslow, Rokeach (1973, p. 327) wrote:

> Many of our findings are consistent with Maslow's hierarchical theory of human motivation. . . . If we assume that lower-order safety and security needs are reflected in a higher regard for values concerning material comfort, conventional forms of religion, and conformity, then our findings suggest that such lower-order needs are more important to the poor and the uneducated. In contrast, the affluent and educated typically regard values reflecting safety and security needs as relatively unimportant, not so much because they are not valued, but because they are taken for granted. Taking such values for granted frees the affluent and educated to place greater emphasis on higher-order values, for instance, on love, competence, and self-actualization.

If one accepts Maslow's (1954) propositions that man is a wanting animal, he always wants and he always wants more, a satisfied need is not a motivator of behavior--only unsatisfied ones, and man's needs are arranged in a series of levels--a hierarchy of importance; and if one accepts Maslow's hierarchy formulation, then one might suppose that lower-class students are generally seeking gratification at the first and second levels of the hierarchy (survival and security), while middle-class and upper-class students are operating at higher levels, such as self-actualization or curiosity. This relationship between needs and values can then serve as a means of analysis in program formulation in education, using the criteria of socioeconomic characteristics to determine needs. A further assumption is made that because a student falls within certain limits on scales ascribed to income, occupation, education, etc., he surely must have needs that are "characteristic" of that relative position. However, the possibility exists that Maslow's propositions, while useful in a generic sense, compose an ideological myth, an ideology that "justifies" the differences in the condition of men, thus serving to perpetuate inequality.

On the one hand, a student should choose those programs that will meet his needs; therefore, a counselor determines what the student's needs are through an analysis of certain socioeconomic characteristics and certain norm-referenced tests and directs the student to the appropriate program. Thus, from conflict perspective, program selection could be viewed as a continuation of the student's same relative class position in the social strata. The rationale for such action would be: as socioeconomic status is related to values, and as values are standards by which a person makes choices, then the student chooses (or is forced to choose) that program area which "meets his needs." His needs are obvious because he comes from a particular class.

On the other hand, and from a functional perspective, program selection could be explained as a student choosing that program which, in his judgment, best meets his needs, choice again conveying values. But in this case his free choice would allow him flexibility and opportunity for mobility commensurate with his interests and abilities. His values may still be class-based, but the institution is not a party to the perpetuation of class through "tracking."

Research Hypotheses

On the basis of the foregoing conceptual framework and review of the related literature, the following hypotheses were structured to guide this study.

Hypothesis I was designed to determine whether or not curriculum students possessed more substantive differences in their value orientations toward education than did extension students. Value orientation toward education in this study was defined earlier as reasons students gave for continuing their education. Eleven choices were used: to be able to contribute more to society, to be able to earn more money, to become more cultured, to gain a general education, to get a better job, to improve my reading and study skills, to improve my social life, to learn more things of interest, to meet interesting people, parents (or spouse) want me to go, and there was nothing better to do. Are curriculum students more socially/culturally and learning-oriented than extension students? Are extension students more goal-oriented than curriculum students?

> Hypothesis I: There is a significant difference between curriculum students and extension students with regard to their value orientations toward education.

Hypothesis II was designed to determine whether or not students in the various curriculum (credit) program areas (college-transfer, special credit, general education, technical, and vocational) possessed substantive differences in their value orientations toward education. For example, do the college-transfer students possess a Vocational-Monetary Orientation where technical students do not?

> Hypothesis II: There are significant differences among curriclum students in their value orientations toward education and program area selection.

Hypothesis III tested the same proposition as hypothesis II among extension students.

> Hypothesis III: There are significant differences among extension students in their value orientations toward education and program area selection.

Hypothesis IV was designed to look at the value orientations toward education of students in the various program areas. Do the value orientations toward education of college-transfer students differ from those of occupational extension students, for instance? In other words, is there some degree of hierarchical arrangement inherent in the program area as manifested in substantive student value differences?

> Hypothesis IV: There are significant differences in the value orientations toward education of students enrolled in different program areas.

Hypothesis V tested the proposition that there are differences in value orientations toward education among curriculum students with regard to such general characteristics as age, sex, and race and socioeconomic characteristics of primary income, occupation of head-of-household, and student's educational level. Are older curriculum students more goal-oriented than other age groupings? Are white curriculum students more socially/culturally oriented than their black counterparts? Are curriculum students who are characterized by low primary income levels, low occupational status categories, and low educational levels more goal-oriented than students from higher primary income levels, higher occupational status categories, and higher educational levels?

> Hypothesis V: There are significant differences in the value orientations toward education of curriculum students with regard to (a) age, (b) sex and race, and socioeconomic characteristics as measured by (c) primary income, (d) occupation of head-of-household, and (e) level of education.

Hypothesis VI tested the same proposition as hypothesis V with extension students.

> Hypothesis VI: There are significant differences in the value orientations toward education of extension students with regard to (a) age, (b) sex and race, and socioeconomic characteristics as measured by (c) primary income, (d) occupation of head-of-household, and (e) level of education.

Hypothesis VII was designed to compare the institutional characteristics that most influenced curriculum students in selecting the institution attended with those that most influenced extension students in their selection. For instance, did curriculum students choose to attend the institution for its student-centeredness and quality of instruction, while extension students selected it because of its low cost and proximity to home?

> Hypothesis VII: There are significant differences between curriculum students and extension students with regard to the institutional characteristics that most influenced them to attend that institution.

Hypothesis VIII compared the reasons students gave for selecting the institution attended and the program area in which they were enrolled. For example, did general education students value more the curriculum offerings of the institution attended than did academic extension students?

> Hypothesis VIII: There are significant differences between students enrolled in different program areas with regard to the institutional characteristics that most influenced them to attend that institution.

Hypothesis IX was designed to compare curriculum students, by program area, with regard to the institutional characteristics that most influenced them to attend a particular institution. For example, did COL-TR students choose the institution because of its location? Did VOC students choose the institution because financial assistance was available?

> Hypothesis IX: There are significant differences among curriculum students, by program area, with regard to the institutional characteristics that most influenced them to attend that institution.

Hypothesis X tested the same proposition as hypothesis IX for extension students.

> Hypothesis X: There are significant differences among extension students, by program area, with regard to the institutional characteristics that most influenced them to attend that institution.

Hypotheses XI and XII compared the reasons given for selecting the institution by curriculum students, then extension students, with the factors of age, sex and race, and socioeconomic characteristics. Are there differences in the reasons given among young students? female students? black students? low-income students? less-educated students?

> Hypothesis XI: Among curriculum students there are significant differences between institutional characteristics that most influenced them in selecting that institution with regard to (a) age, (b) sex and race, and socioeconomic characteristics as measured by (c) primary income, (d) occupation of head-of-household, and (e) level of education.

> Hypothesis XII: Among extension students there are significant differences between institutional characteristics that most influenced them in selecting that institution with regard to (a) age, (b) sex and race, and socioeconomic characteristics as measured by (c) primary income, (d) occupation of head-of-household, and (e) level of education.

METHODOLOGY

This chapter presents the procedures used in measuring the variables and in analyzing the data. Procedures pertaining to the population and sampling design, instrumentation, and data collection are the same as described in Appendix A of this volume.

Measurement of Variables

As discussed in the preceding chapter, the literature indicated that where mutliple reasons are utilized, as in this study, factor analysis reduces the number of reasons to a half-dozen or so "clusters" (Sheffield, 1964; Boshier, 1971; Burgess, 1971; Morstain and Smart, 1974).

Burgess' hypothesis that multiple reasons will cluster into eight categories through factor analysis was upheld for the most part (see Figure 1). However, attention is called to a research project conducted by Ameele and Jones in which student reasons for continuing education at a private two-year college for females in Pennsylvania were compared with those of freshmen at the State University of New York at Buffalo (Blai, 1973). In the study reasons were rank-ordered, 1 through 11, from the following 11 reasons for continuing education: (1) to learn more things of interest, (2) to get a better job, (3) to be able to earn more money, (4) to meet interesting people, (5) to become more cultured, (6) to gain a general education, (7) parents wanted me to go, (8) to improve my social life, (9) to improve my reading and study skills, (10) to be able to contribute more to society, and (11) there was nothing better to do. This same list of reasons was utilized in the measurement of value orientations toward education in this research project.

Returning to the use of factor analysis to reduce numbers of reasons given in assessing value orientations toward education to a half-dozen or so "clusters," Kerlinger (1964, p. 650) defined factor analysis as

> . . . a method for extracting common factor variances from sets of measures. Factor analysis serves the cause of scientific parsimony. Generally speaking, if two tests measure the same thing, the scores obtained from them can be added together. If . . . the two tests do not measure the same thing, their scores cannot be added together. Factor analysis tells us, in effect, what tests or measures can be added and studied together rather than separately. It thus limits the variables with which the scientist must cope.

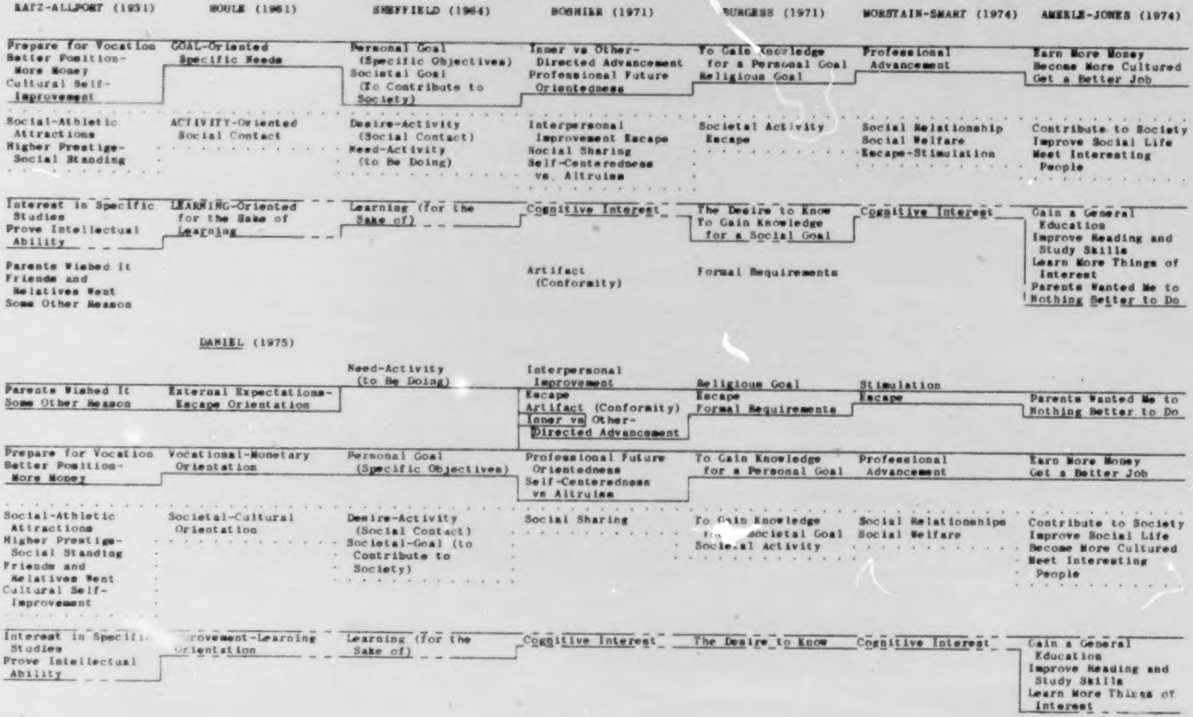
The assumption was made in this study that should the Ameele-Jones reasons be subjected to a second-order factoring, the results would produce an additional "boiling down" approximating Houle's (1961) original typology; i.e., Goal-Oriented, Activity-Oriented, and Learning-Oriented students. The nature of the Ameele-Jones reasons was such that the titles of Houle's categories needed specificity; i.e., Goal-Oriented = Vocational-Monetary Orientation; Activity-Oriented = Social-Cultural Orientation; Learning-Oriented = Improvement-Learning Orientation.

In reviewing Houle's descriptions of the foregoing categories, these modifications did his typology no injustice. Rather, they seemed to possess a greater descriptive quality. In addition, Houle's typology provided no umbrella for such reasons as "parents (or spouse) wanted me to" and "there was nothing better to do." In this study, such reasons were designated External Expectations-Escape Orientation. Figure 2 traces the relevant studies that used factor analysis in the study of reasons for continuing education and compares each with Houle's typology and the adapted typology used in this research. The added category, "External Expectations-Escape Orientation," appeared to fill a void which the Houle typology did not fill.

In summary, the Ameele-Jones reasons for continuing education were chosen to represent NCCCS students' value orientations toward education because (1) they appeared to be comprehensive enough to encompass the vast majority of reasons which factored in other studies cited and (2) the Ameele-Jones research most closely portrayed the interaction of post-secondary education with adult education in that the research involved two-year college students.

Since the sample utilized in this study was quite large (over 10,000 usable responses), it was felt that there was some justification for submitting the Ameele-Jones categories to a second-order factoring. Should the results provide four categories with loadings that approximated the typology adapted in this study, the categories could be used in making better conceptual interpretations of the data. For as Burgess (1971, p. 17) noted:

> A factor of reasons can be said to indicate a deeper and more meaningful interest or felt need which moves adults to seek out and pursue learning activities than a single reason given by an adult for educational participation.



Values are standards of decision-making which influence or determine important evaluations or choices--evaluations (choices) regarding people, programs, situations, or ideas. While attitudes are greater in number than values, are less central and pervasive than values, are more bound to specific situations, and are less resistant to change than values, Robinson and Shaver (1973, pp. 494-495) pointed out that:

> Values influence judgments and actions beyond an immediate or specific situation or goal by providing an abstract frame of reference for perceiving and organizing experience and for choosing among courses of action.

Therefore, attitudes that closely resemble each other--i.e., that relate to a specific area, ideal situation, or person--are reflections of a more abstract value(s). A choice or choices reveals an attitude(s) from which values may be inferred. A choice, then, is an operationalization of a given value orientation.

The act of participation was the beginning point for this study of adult student value orientations toward continuing education. Rank-ordered reasons for participation and for selection of a particular institution permitted the grouping of those reasons into clusters that were consistent with the conceptualization of values and with clusters utilized in previous research.

Two of the reasons for continuing education by adults fell within the Vocational-Monetary Orientation--to be able to earn more money and to get a better job. This cluster was similar to Houle's Goal-Oriented. Three reasons were labeled as an Improvement-Learning Orientation--to gain a general education, to improve my reading and study skills, and to learn more things of interest. These reasons related to Houle's Learning-Oriented. Four of the reasons for continuing education by adults fell within the Societal-Cultural Orientation--to be able to contribute more to society, to become more cultured, to improve my social life, and to meet interesting people. This cluster approximated Houle's Activity-Oriented cited earlier.

Katz and Allport (1931) perceived that the expectations of others were pervasive in the decision-making of some adult students, particularly college freshmen who are still influenced by their parents in the major decisions of life. Other studies, previously cited, included the matter of escape as a viable reason for participation. Hence, the last two reasons--parents (or spouse) wanted me to and there was nothing better to do--clustered as an Expectations-Escape Orientation.

Inherent in this study was the recognition that one of the most difficult and perplexing areas of research is that which is noncognitive--particularly that which attempts to deal with attitudes and values. Jencks *et al*. (1972, p. 12) in their recent popular volume, *Inequality*, admitted that:

> We have not looked in any detail at habits, values, or attitudes, i.e., what we call the "noncognitive" effects of schooling. . . . While cognitive tests have many obvious defects, most measures of attitudes, values, and character structure are even worse.

Van Zeyl (1974, p. 5) put the issues of values and class thusly:

> Value differences between classes are made to carry the weight of causal imputation. Nevertheless, . . . there is a certain circularity in the majority of descriptions of cultural differences between classes. Values are inferred from behavior and then used to explain that same behavior, although the degree of subjective interrelatedness between the two has not been demonstrated. Whether or not a subjective value orientation accounts for the behavior in question cannot be verified directly. But such a mode of explanation does provide the social researcher with protection from possible contradiction, and absolves him of the necessity of looking for other causes.

In this study, value differences, if they existed, were not used to "carry the weight of causal imputation," to use Van Zeyl's words. Rather, they were used in a descriptive sense. Each of the study respondents was asked to rank-order, from 11 choices, 5 reasons for continuing his education. The 11 choices and their corresponding code, which is used throughout the remainder of this presentation, are:

SOC	To be able to contribute more to society.
MON	To be able to earn more money.
CUL	To become more cultured.
ED	To gain a general education.
JOB	To get a better job.
RED	To improve my reading and study skills.
LIF	To improve my social life.
INT	To learn more things of interest.
PEO	To meet interesting people.
PAR	Parents (spouse) wanted me to go.
NOT	There was nothing better to do.

Reasons for the choice of a particular institution are generally thought of as descriptive and characteristic of the modern public CC/TI, i.e., nearness to home, inexpensive, program comprehensiveness, open-door admissions policy, availability of financial aid and job placement services, quality educational programs, and a philosophy of student-centeredness. These reasons for choice are consistent with those listed earlier and with writers in the field of community college education (Johnson, 1965; Cosand, 1966; Medsker and Tillery, 1971; Cross, 1972). In addition, a special report by the North Carolina Board of Education (Planning, 1968, pp. 51-52) carried the following provisions concerning CC/TI education in North Carolina:

> Institutions . . . provide the opportunity for any student, regardless of his previous education, to progress as far as his ability and motivation will carry him. The institutions in the community college system have been and should continue to be "open door," available to any North Carolina citizen regardless of his ability. Once admitted, he should be placed in the curriculum best suited to his aptitudes, level of preparation, and motivation.
>
> Frequently there is great financial need. Sometimes the student has had such inadequate high school preparation that further formal education appears to him to be an insuperable obstacle. Whatever the reason, all of our institutions, and particularly the institutions in the community college system, have a responsibility actively to search out, recruit, and assist where necessary, all who can benefit from the post-high school opportunities that are available to them.
>
> Today our institutions are accessible to 97 percent of the state's high school graduates.

The respondents also were asked to rank-order from nine choices the five characteristics of the institution that most influenced their attending that institution. The nine choices and their corresponding code, which is used throughout the remainder of this presentation, are:

PROG	Educational programs or courses available.
ASST	Financial assistance was available.
PLAC	Job placement services.
LOCA	Location (nearness to your home).
COST	Low cost.
ADMS	Open-door admissions policy.
INST	Quality of instruction.
STUD	Student-centered instruction and activities.
OTHE	Other (to be specified).

The three categories of variables used in this study were (1) program area, (2) demographic characteristics, and (3) socioeconomic characteristics.

There are 13 program areas in the NCCCS, 5 in curriculum (credit) programs and 8 in extension (noncredit) programs. Curriculum program areas include: college-transfer, general education, special credit, technical, and vocational. Extension program areas are: academic extension, apprenticeship, fundamental education, the MDC Job Training program, Manpower Development and Training (MDTA), new and expanding industry, occupational extension, and recreation extension. The analysis was partially based on the assumption that selection of a particular program area in which to enroll implied differences in reasons for continuing education, or differences in those institutional characteristics deemed most influential.

Demographic variables included age, sex, and race--the common demographic variables utilized in most research. The assumption was that differences in age, sex, and race might indicate differences in value orientations toward education, or differences in those institutional characteristics deemed most influential.

The socioeconomic variables utilized in this study were the three commonly used measures of socioeconomic status; i.e., primary income (as determined by the income of the person who supplied more than half of the student's subsistence), occupation of the head-of-household, and level of student's education. Income, occupation, and education are the primary indicators of socioeconomic status in research literature. Again, the assumption was made that as differences occurred in these variables, differences might be accounted for in value orientations toward education and in institutional characteristics deemed most influential in choosing and institution to attend.

Data Analysis

The Mann-Whitney U test and the Kruskal-Wallis analysis of variance with ranks were used to test for statistically significant differences as predicted in the research hypotheses.

Responses were weighted by number of courses or hours in which both full-time and part-time students were enrolled. If this were not done there would be a discrepancy between sample frequencies and actual NCCCS enrollment statistics for the Spring Quarter, 1974. After weighting, the frequencies usually fell within 1% of the actual enrollment statistics.

The weighted frequencies then were multiplied by a value--5, 4, 3, 2, or 1--depending upon the assigned rank given by students for a particular reason for continuing education, or institutional characteristics, i.e., 1, 2, 3, 4, or 5. On the basis of raw scores, overall ranks were attained which represented an ordering of student value orientations toward education (via reasons for continuing education), as well as the most influential characteristics of NCCCS institutions. For example, every weighted frequency that represented a first choice was multiplied by 5, weighted frequencies that represented second choices by 4, and so on. Through this process, raw scores on which the ranks representing student selections could be ordered were obtained.

It is recognized that a critical level of statistical significance is to some extent chosen arbitrarily. However, the writers chose to accept a rationale postulated by Kerlinger (1964, p. 154): "The .05 level . . . is considered a reasonably good gamble. It is neither too high nor too low for most social scientific research." In addition, most of the studies cited in the related literature utilized the .05 level of significance.

In those instances where analysis was initiated to ascertain significant differences between three or more student categories in the rank-ordering of value orientations, the writers chose Kruskal-Wallis analysis of variance with ranks, using mean ranks. According to Siegel (1956, p. 184), this test is useful in determining whether the differences among the samples "signify genuine population differences or whether they represent merely chance variations such as are to be expected among several random samples from the same population." The formula used for testing the hypotheses was:

$$H = \frac{12}{N(N+1)} \sum_{j=1}^{k} \frac{R_j^2}{n_j} - 3(N+1),$$

where N = summation of N_j's (number of cases in all samples combined); k = number of samples; R_j = sum of ranks in j^{th} sample (column); and n_j = number of cases in j^{th} sample, with df = k-1 and using the chi-square approximation to the sampling distribution of H.

Where closer inspection of significant differences was warranted between two student categories on the rank-ordering of value orientation, the Mann-Whitney U test using mean ranks was selected over the median test due to the greater power of the former to support the hypothesis. Calculating U, as described by Siegel for samples where n_r is between 9 and 20, the formula for computing U is:

$$U = n_1 n_2 + \frac{n_1(n_1+1)}{2} - R_1,$$

where n_1 = number of cases of the smaller of two independent groups; n_2 = number of cases of the larger of two independent groups; and R_1 = the sum of the ranks assigned to the group whose sample size is n_1. The significance of U was tested using tables provided by Siegel (1956).

RESULTS

This chapter presents first an overview of the general characteristics of the participating curriculum and extension students who were enrolled in the NCCCS in Spring Quarter, 1974. Those characteristics include sex and race, age, program area, primary income, occupation of head-of-household, and student's level of education. Next is the rank-ordering of reasons for continuing education and institutional characteristics that most influenced students to enroll. The findings from testing the hypotheses are presented in the order in which the hypotheses were stated, followed by a summary of the results.

Respondent Characteristics

A total of 10,074 students participated in this study. Table 1 presents the weighted percentage distribution of those students by general characteristics of sex and race, age, program area, level of education, primary income, and occupation of head-of-household.

Sex and Race

When all respondents were considered together, males outnumbered females by only 10% (Table 1). A majority (75%) of the students were white.

Age

The largest age group represented in the population (40%) were 30 to 59 years of age, followed by 27% who were 20 to 25. Those respondents who were 19 or less represented 24% of the total, and only 6% were over 59 years of age.

Program Area

Slightly less than half (47%) of the respondents were enrolled in curriculum (credit) programs. Of those, 47% were enrolled in technical programs. The next largest group (20%) were in the vocational programs, followed closely by 15% in college-transfer programs.

The largest group represented by the extension students was occupational extension, with 49%. The next largest enrollments were in academic extension, recreation extension, and fundamental education, represented by 18%, 16%, and 14%, respectively. Only three students responded from the new and expanding industry program area.

Table 1. Weighted percentage distribution of respondents enrolled in North Carolina community colleges/technical institutes, 1974, by sex, race, age, program area, level of education, and occupation of head-of-household

Characteristic	Total respondents[a]
Sex:	
Male	55
Female	[illegible]
Total	[illegible]
	(9812)
Race:	
Nonwhite	25
White	75
Total	100
	(9805)
Age, yr:	
19 or less	15
20-25	27
26-29	12
30-59	40
60 or more	6
Total	100
	(9817)
Program area:	
Curriculum:	
College Transfer	15
General Education	8
Special Credit	10
Technical	47
Vocational	20
Total	100
	(6937)
Extension:	
Academic Extension	18
Apprenticeship	1
Fundamental Education	14
MDC Job Training	1
Manpower Development (MDTA)	1
New and Expanding Industry	0
Occupational Extension	49
Recreation Extension	16
Total	100
	(2900)

Table 1 (continued)

Characteristic	Total respondents[a]
Primary income:	
Less than $3,000	11
$3,000-$5,999	16
$5,000-$7,499	10
$7,500-$9,999	15
$10,000-$14,999	29
$15,000-$19,999	11
$20,000 or more	8
Total	100 (8218)
Level of education:	
Grammar school or less	8
Some high school	13
High school graduate	40
GED certificate	5
Some postsecondary education	25
College graduate or more	9
Total	100 (9698)
Occupation of head-of-household:	
Professional or technical worker	14
Business owner, manager, administrator, official	13
Clerical or sales worker	11
Skilled craftsman or foreman (not farm)	19
Operates a machine or vehicle (operative)	17
Laborer (nonfarm)	5
Service worker	9
Unskilled worker	1
Farm owner or manager	4
Farm foreman	0
Farm laborer	2
Other (student, retired, housewife)	5
Total	100 (8992)

[a] Number in parentheses indicates total response. The total responses, according to characteristic, varied because students did not respond to all questions.

Primary Income

Slightly less than half of the students (48%) reported primary incomes in the range of $10,000-$20,000 or more. The remainder were almost equally divided between those in the less than $6,000 primary income category and those whose primary income ranged from $6,000 to $9,999.

Level of Education

The respondents were requested to indicate the highest grade in school they had completed before entering the CC/TI. Almost one-half (45%) of the respondents were either high school graduates or held a GED certificate, followed by 25% who had some postsecondary education. The smallest groups according to educational level were those who indicated college graduate or more (9%) and grammer school or less (8%).

Occupation of Head-of-Household

The largest occupational groups represented by the students' head-of-household were skilled craftsman or foreman (not farm), 19%; operates a machine or vehicle, 17%; and professional or technical worker, 14% (Table 1). The next largest groups were business owner, manager, administrator, or official, 13%; and service worker, 9%. Heads-of-household who were unskilled workers and farm laborers represented 1% and 2%, respectively, of the total group.

Rank-Order of Reasons for Continuing Education and Institutional Characteristics

Taking a macro look at the reasons for continuing education among all students responding, a Vocational-Monetary Orientation was paramount (Table 2). A Learning-Improvement Orientation was next in importance, followed by a Social-Cultural Orientation. The External Expectations-Escape Orientation was least represented among the students sampled. These orientations are defined and discussed in detail later in this section.

Among all students responding, location (nearness to your home) was ranked first as the most influential institutional characteristic (Table 2). Educational programs or courses available ranked second; low cost, third; quality of instruction, fourth; and open-door admissions policy, fifth.

Table 2. Reasons for continuing education and institutional characteristics for all students, by raw score and rank-order

Item	Raw score	Rank-order
Reasons for continuing education:		
To be able to earn more money.	26,498	1
To be able to get a better job.	25,164	2
To learn more things of interest.	18,021	3
To gain a general education.	16,865	4
To be able to contribute more to society.	15,345	5
To become more cultured.	8,769	6
To meet interesting people.	7,599	7
To improve my social life.	5,099	8
To improve my reading and study skills.	5,090	9
Parents (or spouse) wanted me to go.	4,346	10
There was nothing better to do.	1,912	11
Most influential institutional characteristic:		
Location (nearness to your home).	29,062	1
Educational programs or courses available.	28,186	2
Low cost.	24,550	3
Quality of instruction.	16,399	4
Open-door admissions policy.	11,230	5
Financial assistance available.	7,750	6
Student-centered activities & instruction.	5,643	7
Job placement services.	5,186	8
Other	2,179	9

In this study the 11 reasons for continuing education (Ameele-Jones, 1973) were assumed to fit the writers' adaptated typology, shown in Figure 2, as follows:

Reason	Orientation
To be able to earn more money (MON) To get a better job (JOB)	Vocational-Monetary
Parents (or spouse) wanted me to go (PAR) There was nothing better to do (NOT)	External Expectations-Escape
To gain a general education (ED) To improve my reading and study skills (RED) To learn more things of interest (INT)	Improvement-Learning
To be able to contribute more to society (SOC) To become more cultured (CUL) To improve my social life (LIF) To meet interesting people (PEO)	Social-Cultural

With this assumption in mind, the reasons were subjected to factor analysis. In the resulting factor matrix, shown below, I = Vocational-Monetary Orientation; II = External Expectations-Escape Orientation; III = Improvement-Learning Orientation; and IV = Social-Cultural Orientation.

	I	II	III	IV
SOC	0.26146	-0.38678	0.00042	0.42813
MON	0.73463	-0.08273	0.08909	-0.03289
CUL	-0.06203	-0.28278	0.03607	0.60301
ED	0.12291	-0.01839	0.54681	0.01698
JOB	0.67658	-0.01981	0.14705	-0.07744
RED	-0.37243	-0.31239	0.50821	-0.32403
LIF	-0.19646	-0.05535	-0.41936	0.16472
INT	0.15906	-0.37796	0.00581	-0.63818
PEO	0.00321	-0.05024	-0.68364	-0.32332
PAR	0.15332	0.72096	0.07953	-0.04962
NOT	-0.19215	0.56248	-0.05328	0.00674

Previous studies on factors of reasons for educational participation were based on the .40 cutoff point (Burgess, 1971). Close inspection of the pattern of all factor loadings in the foregoing rotated factor matrix indicated that additional meaning would not be added by selecting a lower cutoff point in this study.

Inspection of the foregoing factor analysis matrix shows that both Factor I (Vocational-Monetary) reasons--to be able to earn more money and to get a better job--with factor loadings of .73 and .68, respectively, carried the heaviest factor loadings by far. In Factor II (External Expectations-Escape), both reasons--parents (or spouse) wanted me to go and there was nothing better to do--with factor loadings of .72 and .56, respectively, met the .40 criterion. In Factor III (Improvement-Learning), to gain a general education (.55) and to improve my reading and study skills (.51) carried loadings greater than .40, but to meet interesting people carried a negative loading of -.68. A possible interpretation of this negative factor loading is that, as adults, the respondents had as their goal the attainment of specific learning objectives; thus, the desire to meet interesting people was antithetical. The same can be said of the -.42 negative loading for the reason, to improve my social life, although the loading was not so great. Another interpretation is that the reasons, to gain a general education and to improve my reading and study skills, are particularistic and individualist, whereas, the reasons, to meet interesting people and to improve my social life, are universalistic and social in nature. In Factor IV (Social-Cultural), to become more cultured and to be able to contribute more to society, with factor loadings of .60 and .43, respectively, carried positive loadings in excess of the .40 cutoff point. However, the reason, to learn more things of interest, was negatively loaded at -.64.

Parenthetically, the single most important reason for continuing education among extension students was to learn more things of interest (Improvement-Learning Orientation). Here again, one might apply the universalistic-particularistic rationale. As adults desire to improve their social life and to be able to contribute more to society, learning more things of interest appears incidental. On the other hand, those who desire to learn something of interest to them would not be inclined toward social-cultural pursuits.

At any rate, 8 of the 11 reasons carried positive loadings that exceeded the .40 cutoff point and were assembled under the categories which were surmised. These eight reasons were: to be able to earn more money (.73)--Vocational-Monetary; parents (or spouse) wanted me to go (.72)--External

Expectations-Escape; to get a better job (.68)--Vocational-Monetary; to become more cultured (.60)--Social-Cultural; there was nothing better to do (.56)--External Expectations-Escape; to gain a general education (.55) and to improve my reading and study skills (.51)--Improvement-Learning; and to be able to contribute more to society (.43)--Social-Cultural. The three negative loadings, to meet interesting people (-.68)--Social-Cultural, to learn more things of interest (-.64)--Improvement-Learning, and to improve my social life (-.42)--Social-Cultural, seemed to be conceptually explainable.

Table 3 shows the adapted typology with its corresponding variance and percentage of variance.

Table 3. Factors in the adapted typology, by variance and percentage of total variance

	Factor	Variance	Percent
I.	Vocational-Monetary Orientation	1.34780	26.73
II.	External Expectations-Escape Orientation	1.25374	24.86
III.	Improvement-Learning Orientation	1.24057	24.60
IV.	Social-Cultural Orientation	1.20072	23.81

The eigenvalues of Factor I--Vocational-Monetary Orientation--accounted for 13.7% of the variance; Factor II--External Expectations-Escape Orientation--produced a cumulative percentage of 25.4. The eigenvalues of Factor III--Improvement-Learning Orientation--accounted for 35.8% of the variance; Factor IV--Social-Cultural Orientation--produced a cumulative percentage of 45.8.

The eigenvalues that emanated from the process of factor analysis were:

1.50881	0.91351
1.28533	0.88900
1.14711	0.85719
1.10160	0.71460
0.99198	0.65558
0.93529	

Eigenvalues greater than 1.00000 normally represent factors that would be resubmitted to the factor analysis process for second or third factoring. Since the difference between eigenvalue 1.10160 and eigenvalue 0.99198 was only 0.10962 and represented only 0.00802 from unity, there was evidence that five factors existed instead of four (Boshier, 1971).

In summary, the 11 reasons for continuing education appeared to factor into four major categories, with 8 of the 11 accurately fitting the assumption that they would fit the researcher's typology. The three reasons that did not load within the assumed appropriate categories indicated dichotomous value implications, which further enhanced the understanding of basic value orientations toward education and aided in analyzing the data.

Testing the Hypotheses

This study sought the answers to certain research questions, answers which would provide empirical evidence on which to base future planning and programming in NCCCS institutions. To attain this objective, the study focused on student value orientations toward education as related to certain student characteristics, program area selection, and institutional characteristics that influenced choice of institution to attend.

Hypothesis I

> There are significant differences between curriculum students and extension students with regard to their value orientations toward education.

When all reasons for continuing education among curriculum and extension students were examined, no significant differences were found (Table 4). Therefore, hypothesis I is not supported. However, the intensity of individual reasons showed that extension students ranked "to learn more

Table 4. Rank-order of reasons for continuing education by curriculum and extension students

Reason	Type of student			
	Curriculum		Extension	
	Raw score[a]	Rank	Raw score	Rank
To be able to contribute more to society (SOC)	3629	4	3272	4
To be able to earn more money (MON)	6833	1	3480	2
To become more cultured (CUL)	1864	6	2679	7
To gain a general education (ED)	4037	3	3281	3
To get a better job (JOB)	6324	2	2996	5
To improve my reading and study skills (RED)	1094	8	1639	9
To improve my social life (LIF)	1020	9	2209	8
To learn more things of interest (INT)	3600	5	5894	1
To meet interesting people (PEO)	1249	7	2867	6
Parents (or spouse) wanted me to go (PAR)	928	10	787	10
There was nothing better to do (NOT)	319	11	662	11

[a] Mann-Whitney U = 58; .05 = ≤ 34. Raw score is the weighted frequency times the converted rank value; each first choice multiplied by 5, each second by 4, each third by 3, and so on.

things of interest"--an Improvement-Learning Orientation--and "to be able to earn more money"--a Vocational-Monetary Orientation. Curriculum students ranked first the Vocational-Monetary reasons of "to get a better job" and "to be able to earn more money." Curriculum and extension students ranked as least important the External Expectations-Escape reasons of "parents (or spouse) wanted me to go" and "there was nothing better to do."

Hypothesis II

> There are significant differences among curriculum students in their value orientations toward education and program area selection.

Significant (.05 level) differences were found among curriculum students when comparing each of the five program areas within the curriculum division (Table 5). However, when special credit students and general education students were omitted from the analysis, the significant differences disappeared (Table 6). Consequently the differences that existed were between college-transfer, technical, and vocational students, taken as a group, and general education and special credit students, taken as a group. For example, special credit and general education students valued the reason, "to improve my reading and study skills," higher than did other curriculum students, and were less interested in "to meet interesting people" than were other curriculum students. Further examination revealed that curriculum students possessed a predominately Vocational-Monetary Orientation. Since significant differences were found among curriculum students' value orientations toward education and program area selection, hypothesis II is supported.

Hypothesis III

> There are significant differences among extension students in their value orientations toward education and program area selection.

Significant (.05 level) differences were found among extension students when all reasons for continuing education were compared with program area selection (Table 7). When apprenticeship, MDC, and MDTA students were combined with occupational extension students (since all are directly related to occupational improvement), the significant differerences remained (Table 8). The fundamental education students placed Vocational-Monetary considerations as their foremost reasons for continuing education. However, "to

Table 5. Rank-order of curriculum students' reasons for continuing education, by program area selection

Reason	Program area									
	College-transfer		Special credit		General education		Technical		Vocational	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	676	3	452	3	255	4	1662	4	585	5
MON	938	1	550	1	498	1	3428	1	1420	1
CUL	346	6	268	6	142	6	801	6	306	6
ED	656	4	407	5	378	3	1861	3	735	4
JOB	923	2	486	2	444	2	3177	2	1294	2
RED	133	10	176	7	100	7	516	8	169	10
LIF	171	9	98	9	97	8	460	9	196	8
INT	547	5	413	4	224	5	1661	5	754	3
PEO	237	7	117	8	74	10	586	7	235	7
PAR	173	8	46	10	77	9	460	10	171	9
NOT	49	11	20	11	16	11	156	11	77	11

[a] RS = raw score, in this and tables that follow; H = 17.14, df = 4, .05 ≥ 9.49.

Table 6. Rank-order of reasons for continuing education among college-transfer, technical, and vocational students

Reason	Program area					
	College-transfer		Technical		Vocational	
	RS[a]	Rank	RS	Rank	RS	Rank
SOC	676	3	1662	4	585	5
MON	938	1	3428	1	1420	1
CUL	346	6	801	6	306	6
ED	656	4	1861	3	735	4
JOB	923	2	3177	2	1294	2
RED	133	10	516	8	169	10
LIF	171	9	460	9	196	8
INT	547	5	1661	5	754	3
PEO	237	7	586	7	235	7
PAR	173	8	460	10	171	9
NOT	49	11	156	11	77	11

[a] H = 5.31; df = 2; .05 ≥ 5.99.

Table 7. Rank-order of extension students' reasons for continuing education, by program area selection

	Program area[a]													
Reason	Academic extension		Apprenticeship		Fundamental education		MDC		MDTA		Occupational extension		Recreation extension	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	579	4	15	7	399	6	48	4	37	3	1784	2	410	4
MON	536	6	92	1	761	2	60	2	70	1	1737	3	220	7
CUL	546	5	16	6	303	8	29	6	9	7	1239	7	535	3
ED	596	3	34	3	746	3	45	5	32	4	1433	4	396	5
JOB	491	7	69	2	781	1	56	3	67	2	1397	5	133	10
RED	364	9	18	5	636	4	9	9	3	11	466	9	141	9
LIF	484	8	9	9	328	7	93	8	6	8	1028	8	343	6
INT	1189	1	30	4	458	5	64	1	22	5	2782	1	1349	1
PEO	627	2	13	8	174	9	20	7	6	9	1309	6	719	2
PAR	114	11	5	10	117	10	3	11	11	6	381	10	157	8
NOT	190	10	3	11	46	11	5	10	5	10	290	11	122	11

[a] New and expanding industry program not included because of too few responses.

[b] $H = 58.75$; df = 6; .05 ≥ 12.59.

Table 8. Rank-order of extension students' reasons for continuing education, by program area selection with occupational education as a collapsed category

Reason	Program area							
	Academic extension		Fundamental education		Occupational extension[a]		Recreation extension	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	579	4	399	6	1883	3	410	4
MON	536	6	761	2	1960	2	220	7
CUL	546	5	303	8	1293	7	535	3
ED	596	3	746	3	1543	5	396	5
JOB	491	7	781	1	1589	4	133	10
RED	364	9	636	4	497	9	141	9
LIF	484	8	328	7	1052	8	343	6
INT	1189	1	458	5	2897	1	1349	1
PEO	627	2	174	9	1347	6	719	2
PAR	114	11	117	10	400	10	157	8
NOT	190	10	46	11	303	11	122	11

[a] The apprenticeship, MDC, and MDTA programs were combined with occupational extension.

[b] $H = 24.91$; df = 3; .05 ≥ 7.82.

gain a general education" and "to improve my reading and study skills--an Improvement-Learning Orientation--were almost as great in intensity, as shown by the raw scores in Table 7. Academic extension and recreation extension students ranked highest "to learn more things of interest" and "to meet interesting people"--indicating Improvement-Learning and Social-Cultural Orientations. Occupational extension students placed highest values on the Improvement-Learning reason, "to learn more things of interest," and the Vocational-Monetary reason, "to be able to earn more money." On the basis of the significant differences noted in Table 7, hypothesis III is supported.

Hypothesis IV

There are significant differences in the value orientations toward education of students enrolled in different program areas.

As one might expect, significant differences were readily apparent when viewing the rank-orders of all program areas simultaneously (Table 9). The data show that curriculum students were Vocational-Monetary oriented across all curriculum program areas. Among extension students, those in apprenticeship, fundamental education, and MDTA program areas were predominately Vocational-Monetary oriented. Those extension students in academic, occupational, and recreation extension programs were primarily Improvement-Learning oriented, with the Social-Cultural Orientation next in importance. The External Expectations-Escape Orientation again was the least apparent. The significant differences shown in value orientations toward education of students enrolled in different programs supports hypothesis IV.

Hypothesis V

> There are significant differences in the value orientations toward education of curriculum students with regard to (a) age, (b) sex and race, and socioeconomic characteristics as measured by (c) primary income, (d) occupation of head-of-household, and (e) level of education.

Hypothesis Va

> There are significant differences in the value orientations toward education of curriculum students with regard to age.

Several significant differences were noted when comparing reasons for continuing education with the age of curriculum students (Table 10). Among those differences were: (1) those students who were under 20 years of age were primarily and intensely interested in Vocational-Monetary pursuits; (2) as age increased, the intensity of the Vocational-Monetary pursuits decreased; and (3) students who were 60 years old or more placed paramount importance on Social-Cultural pursuits.

Hypothesis Vb

> There are significant differences in the value orientations toward education of curriculum students with regard to race and sex.

Significant differences were noted for both race and sex (Table 11), with the differences greater between sexes than

Table 9. Rank-order of students' reasons for continuing education, by program area[a]

Reason	Program area[b]									
	College-transfer		General education		Special credit		Technical		Vocational	
	RS[c]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	676	3	452	3	255	4	1662	4	585	5
MON	938	1	550	1	498	1	3428	1	1420	1
CUL	346	6	268	6	142	6	801	6	306	6
ED	656	4	407	5	378	3	1861	3	735	4
JOB	923	2	486	2	444	2	3177	2	1294	2
RED	133	10	176	7	100	7	516	8	169	10
LIF	171	9	98	9	97	8	460	9	196	8
INT	547	5	413	4	224	5	1661	5	754	3
PEO	237	7	117	8	74	10	586	7	235	7
PAR	173	8	46	10	77	9	460	10	171	9
NOT	49	11	20	11	16	11	156	11	77	11

Reason	Academic extension		Appren-ticeship		Fundamental education		MDC		MDTA		Occupational extension		Recreation extension	
	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	579	4	15	7	399	6	48	4	37	3	1784	2	410	4
MON	536	6	92	1	761	2	60	2	70	1	1737	3	220	7
CUL	546	5	16	6	303	8	29	6	9	7	1239	7	535	3
ED	596	3	34	3	746	3	45	5	32	4	1433	4	396	5
JOB	491	7	69	2	781	1	56	3	67	2	1397	5	133	10
RED	364	9	18	5	636	4	9	9	3	11	466	9	141	9
LIF	484	8	9	9	328	7	9	8	6	8	1028	8	344	6
INT	1189	1	30	4	458	5	64	1	22	5	2782	1	1349	1
PEO	627	2	13	8	174	9	20	7	6	9	1309	6	719	2
PAR	114	11	5	10	117	10	3	11	11	6	381	10	157	8
NOT	190	10	3	11	46	11	5	10	5	10	290	11	122	11

Table 9 (continued)

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[a] Ties in raw scores were broken by carrying the raw scores two decimals so that the test for significance calculations could be corrected.

[b] New and expanding industry program was not included because of too few responses.

[c] $H = 86.11$; df = 11; .05 ≥ 7.05.

Table 10. Rank-order of curriculum students' reasons for continuing education, by age

Reason	Age, yr									
	≤19		20-25		26-29		30-59		≥60	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	723	5	1175	5	479	4	1215	4	31	1
MON	1514	2	2432	1	1011	1	1849	1	15	3
CUL	316	8	614	6	264	6	640	6	22	2
ED	809	3	1391	3	555	3	1264	3	11	5
JOB	1624	1	2399	2	863	2	1420	2	6	6
RED	131	10	274	10	194	7	480	7	3	9
LIF	229	9	396	8	143	8	246	9	6	7
INT	789	4	1254	4	475	5	1065	5	12	4
PEO	410	6	448	7	120	9	266	8	5	8
PAR	392	7	380	9	47	10	107	10	1	11
NOT	115	11	143	11	25	11	31	11	3	10

[a] $H = 29$; $df = 4$; $.05 \geq 9.49$.

Table 11. Rank-order of curriculum students' reasons for continuing education, by race and sex

Reason	Nonwhite				White			
	Female		Male		Female		Male	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	243	4	312	3	1502	3	1523	5
MON	434	2	714	1	1920	2	3692	1
CUL	123	6	181	6	664	6	875	6
ED	254	3	306	4	1328	4	2115	3
JOB	478	1	606	2	2029	1	3149	2
RED	74	10	145	8	317	9	535	8
LIF	81	9	153	7	178	10	580	7
INT	187	5	259	5	1292	5	1822	4
PEO	112	7	82	9	550	7	487	9
PAR	81	8	58	10	356	8	427	10
NOT	18	11	29	11	80	11	185	11

[a] $H = 53.59$; $df = 3$; $.05 \geq 7.82$.

between races. For instances, females indicated a Vocational-Monetary Orientation in the order of "to get a better job" and then "to be able to earn more money"; whereas males indicated a Vocational-Monetary Orientation in the order of "to be able to earn more money" and "to get a better job." Nonwhite females and white males ranked "to gain a general education" (Improvement-Learning) third among all reasons, whereas nonwhite males and white females ranked "to be able to contribute more to society" (Social-Cultural) third among all reasons.

Hypothesis Vc

> There are significant differences in the value orientations toward education of curriculum students with regard to primary income.

Among all income categories, "to be able to earn more money" and "to get a better job" were ranked first and second, respectively; however, the raw scores decreased in intensity with increasing income, being most intense in the $7,500-$14,999 income groups and least intense in the $20,000 or more category (Table 12). The latter income group placed a significantly higher value on "to learn more things of interest" (Improvement-Learning) than the other income categories. "To gain a general education" (Improvement-Learning) was ranked third among all income categories except that of $20,000 or more.

Hypothesis Vd

> There are significant differences in the value orientations toward education of curriculum students with regard to occupation of the head-of-household.

No significant differences were found among curriculum students with regard to the occupational categories (Table 13). Vocational-Monetary reasons were ranked highest across all occupational categories. Professional and technical workers appeared to value the reason "to be able to contribute to society" (Social-Cultural) more highly than all other occupational categories. Operatives apparently valued the reason "to improve my reading and study skills" (Improvement-Learning) less than did all other occupational categories.

Table 12. Rank-order of curriculum students' reasons for continuing education, by primary income

Reason	Primary income													
	$2,999 or less		$3,000-5,999		$6,000-7,499		$7,500-9,999		$10,000-14,999		$15,000-19,999		$20,000 or more	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	447	5	378	4	270	4	846	5	973	4	198	4	133	4
MON	921	1	787	1	523	1	1709	1	1705	1	309	1	186	1
CUL	263	6	193	6	136	6	426	6	462	6	105	7	78	6
ED	542	3	396	3	301	3	981	3	1098	3	216	3	125	5
JOB	902	2	747	2	510	2	1535	2	1520	2	277	2	164	2
RED	152	9	104	9	69	9	249	8	302	7	38	9	46	9
LIF	170	8	123	8	79	8	216	9	236	10	27	10	55	8
INT	464	4	352	5	248	5	866	4	939	5	190	5	141	3
PEO	188	7	130	7	83	7	271	7	288	8	56	7	62	7
PAR	121	10	102	10	65	10	182	10	255	9	55	8	364	10
NOT	49	11	32	11	14	11	56	11	76	11	12	11	19	11

[a] $H = 26.61$; df = 6; .05 $\geq$ 12.59.

Table 13. Rank-order of curriculum students' reasons for continuing education, by occupation of head-of-household

Reason	Occupation of head-of-household[a]											
	A		B		C		D		E		F	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	555	3	645	4	415	4	648	5	462	5	724	4
MON	819	1	1080	1	809	1	1426	1	1052	1	1318	1
CUL	260	6	352	6	201	6	348	6	255	6	327	6
ED	531	4	715	3	493	3	809	3	531	4	745	3
JOB	729	2	978	2	743	2	1303	2	1028	2	1208	2
RED	128	8	173	9	136	8	191	8	144	10	242	7
LIF	93	10	156	10	115	9	191	9	165	8	218	9
INT	487	5	629	5	441	5	734	4	548	3	586	5
PEO	156	7	243	7	148	7	219	7	195	7	219	8
PAR	104	9	205	8	85	10	174	10	158	9	157	10
NOT	46	11	51	11	28	11	49	11	38	11	78	11

[a] A = professional or technical workers; B = business owners, managers; C = clerical or sales workers; D = skilled craftsmen, foremen; E = operate a machine or vehicle; and F = unskilled service or domestic workers.

[b] $H = 3.62$; df = 5; $.05 \geq 11.07$.

Hypothesis Ve

> There are significant differences in the value orientations toward education of curriculum students with regard to level of education.

The Vocational-Monetary reasons of "to be able to earn more money" and "to get a better job" were valued first and second, respectively, in every educational category except college graduates, who placed "to be able to earn more money" first, "to get a better job," third (Table 14). The Social-Cultural reason, "to be able to contribute more to society," ranked higher among the least educated and the most educated than among the other educational categories. This similarity may have been a function of age rather than level of education.

The least educated--i.e., those who had completed grammar school or less and the high school dropouts--valued more the improvement of their reading and study skills (Improvement-Learning) and their social life (Social-Cultural), and valued less "to become cultured" and "to meet interesting people" than all other educational categories.

To summarize, hypothesis V, which states that there are significant differences in value orientations toward education of curriculum students with regard to certain general characteristics, is supported for age, race and sex, primary income, and level of education. It is not supported with regard to occupation of head-of-household.

Hypothesis VI

> There are significant differences in the value orientations toward education of extension students with regard to (a) age, (b) sex and race, and socioeconomic characteristics as measured by (c) primary income, (d) occupation of head-of-household, and (e) level of education.

Hypothesis VIa

> There are significant differences in the value orientations toward education of extension students with regard to age.

Table 14. Rank-order of curriculum students' reasons for continuing education, by level of education

Reason	Level o[illegible]ion[a]											
	A		B		C		D		E		F	
	RS[b]	Rank	RS	Rank	RS	Rank	[illegible]s	Rank	RS	Rank	RS	Rank
SOC	51	3	114	5	1456	5	263	4	1357	4	361	2
MON	75	1	250	1	3087	1	580	1	2419	1	377	1
CUL	24	8	72	6	798	6	142	6	649	6	164	6
ED	31	5	156	3	1793	3	340	3	1410	3	276	4
JOB	65	2	211	2	2901	2	496	2	2316	2	291	3
RED	30	6	60	7	504	8	97	7	322	9	69	8
LIF	28	7	47	8	497	9	73	9	315	10	51	9
INT	36	4	145	4	1632	4	256	5	1237	5	267	5
PEO	15	9	30	10	563	7	75	8	475	7	84	7
PAR	8	10	30	9	451	10	38	10	359	8	36	10
NOT	5	11	9	11	164	11	20	11	101	11	17	11

[a] A = grammar school or less; B = some high school; C = high school graduate; D = GED certificate; E = some postsecondary education; and F = college graduate or more.

[b] $H = 43.13$; $df = 5$; $.05 \geq 11.07$.

The youngest category of extension students, 19 years or less, valued Vocational-Monetary pursuits highest of all reasons (Table 15), but the intensity of that valuation was not so great as with curriculum students (Table 10). As age increased, interest in Vocational-Monetary pursuits decreased dramatically, and "to learn more things of interest" (Improvement-Learning) increased in both value and intensity. Likewise as age increased, up to age 60, Social-Cultural reasons increased in value. In the 60 or more age category, value orientations toward education were totally different from those of the youngest age group.

Hypothesis VIb

> There are significant differences in the value orientations toward education of extension students with regard to race and sex.

When compared by sex, female extension students placed most emphasis on the Improvement-Learning reason, "to learn more things of interest," whereas males placed the highest valuation on the Vocational-Monetary reason, "to be able to earn more money" (Table 16). White females were much less interested than nonwhite females in making more money and in getting a better job. White females also ranked the Social-Cultural reason, "to become more cultured," much higher than did nonwhite females. All males valued the Improvement-Learning reason, "to gain a general education," more than did females, and nonwhite males were predominately Vocational-Monetary oriented.

Hypothesis VIc

> There are significant differences in the value orientations toward education of extension students with regard to primary income.

All income categories of extension students ranked as first the Improvement-Learning reason, "to learn more things of interest" (Table 17). As income increased, the value given Vocational-Monetary reasons decreased and increasing value was placed upon Social-Cultural reasons.

Table 15. Rank-order of extension students' reasons for continuing education, by age

Reason	Age, yr									
	≤19		20-25		26-29		30-59		≥60	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	301	5	613	5	364	5	1713	2	268	3
MON	432	2	982	2	461	2	1447	5	150	9
CUL	215	6	507	8	288	7	1399	6	259	5
ED	341	3	713	4	384	4	1608	3	232	6
JOB	438	1	900	3	410	3	1148	7	95	10
RED	183	7	340	9	159	9	780	9	171	8
LIF	170	8	521	7	228	8	1018	8	263	4
INT	332	4	1065	1	653	1	3122	1	712	1
PEO	154	9	522	6	295	6	1476	4	415	2
PAR	100	10	256	10	65	10	342	10	23	11
NOT	48	11	153	11	53	11	217	11	187	7

[a] $H = 24.94$; df = 4; $.05 \geq 9.49$.

Table 16. Rank-order of extension students' reasons for continuing education, by race and sex

Reason	Nonwhite				White			
	Female		Male		Female		Male	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	624	5	276	6	1476	4	812	5
MON	746	2	616	1	998	6	1046	1
CUL	423	8	227	7	1530	3	453	6
ED	489	7	367	3	1423	5	916	3
JOB	632	4	541	2	921	7	838	4
RED	324	9	309	4	561	9	354	9
LIF	633	3	217	8	897	8	380	8
INT	1041	1	297	5	3478	1	979	2
PEO	577	6	103	9	1762	2	388	7
PAR	161	11	39	11	444	10	117	10
NOT	164	10	44	10	304	11	144	11

[a] $H = 17.10$; df = 3; $.05 \geq 7.82$.

Table 17. Rank-order of extension students' reasons for continuing education, by primary income

Reason	Primary income													
	$2,999 or less		$3,000-5,999		$6,000-7,499		$7,500-9,999		$10,000-14,999		$15,000-19,999		$20,000 or more	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	686	5	306	5	256	2	638	3	620	3	100	6	101	3
MON	929	2	369	2	238	3	643	2	565	4	113	3	66	6
CUL	494	8	277	6	176	6	464	7	553	5	105	4	66	5
ED	702	4	326	3	204	5	637	4	629	2	133	2	103	2
JOB	837	3	322	4	237	4	552	5	453	7	74	7	45	7
RED	492	9	160	9	92	9	269	9	225	9	53	8	19	9
LIF	629	7	198	8	139	8	350	8	323	8	51	9	43	8
INT	1156	1	512	1	334	1	1073	1	1240	1	233	1	152	1
PEO	617	6	238	7	175	7	526	6	530	6	101	5	80	4
PAR	167	11	48	11	63	10	155	10	133	10	19	10	17	10
NOT	193	10	50	10	30	11	83	11	96	11	17	11	14	11

[a] H = 47.45; df = 6; .05 $\geq$ 12.59.

Hypothesis VId

> There are significant differences in value orientations toward education of extension students with regard to the occupation of the head-of-household.

As in the income categories, the Improvement-Learning reason, "to learn more things of interest" was placed first in valuation by all occupational categories (Table 18). The so-called "white-collar" occupational categories (professional and technical, business owners and managers, and clerical and sales workers) valued the Social-Cultural reason, "to be able to contribute to society," more than the so-called "blue-collar" (skilled craftsmen and foremen, operatives) and unskilled workers. Blue-collar and unskilled workers were more Vocational-Monetary oriented than were the white-collar workers.

Hypothesis VIe

> There are significant differences in the value orientations toward education of extension students with regard to their level of education.

"To learn more things of interest" was ranked first by all educational categories of extension students (Table 19). Those extension students with the least education (grammar school or less) ranked second "to improve my reading and study skills." Vocational-Monetary pursuits were more important to high school dropouts than among other educational categories. The data indicated that as the student's level of education increased, Social-Cultural pursuits became more important.

The foregoing tests of hypothesis VI, which predicted that there are significant differences in the value orientations toward education of extension students with regard to certain general characteristics, indicated support for the hypothesis with regard to age, race and sex, primary income, occupation of the head-of-household, and level of education.

Hypothesis VII

> There are significant differences between curriculum students and extension students with regard to the institutional characteristics that influenced them most to attend that institution.

The data in Table 20 show no significant differences between curriculum and extension students with regard to their ranking of institutional characteristics that influenced them

Table 18. Rank-order of extension students' reasons for continuing education, by occupation of head-of-household

Reason	Occupation of head-of-household[a]											
	A		B		C		D		E		F	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	510	2	553	2	310	3	456	5	450	4	687	5
MON	335	6	418	6	307	4	540	3	655	2	867	2
CUL	383	5	511	3	238	7	445	6	350	7	484	9
ED	456	3	460	4	314	2	564	2	441	5	699	4
JOB	237	7	253	8	264	6	483	4	611	3	791	3
RED	86	9	208	9	130	9	222	9	267	9	501	8
LIF	198	8	295	7	145	8	291	8	326	8	668	6
INT	958	1	992	1	595	1	401	1	774	1	1141	1
PEO	424	4	456	5	295	5	401	7	382	6	627	7
PAR	72	10	109	10	92	10	155	10	122	10	168	11
NOT	55	11	94	11	50	11	77	11	98	11	179	10

[a] A = professional or technical workers; B = business owners, managers; C = clerical or sales workers; D = skilled craftsmen, foremen; E = operate a machine or vehicle; and F = unskilled service or domestic workers.

[b] $H = 16.11$; $df = 5$; $.05 \geq 11.07$.

Table 19. Rank-order of extension students' reasons for continuing education, by level of education

Reason	Level of education[a]									
	A		B		C		D		E	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
SOC	339	8	605	5	1262	3	513	2	491	2
MON	469	4	782	2	1397	2	505	3	264	6
CUL	298	9	456	8	1030	7	479	5	383	5
ED	482	3	721	4	1164	5	489	4	383	4
JOB	466	5	735	3	1172	4	386	7	117	9
RED	484	2	348	9	500	9	141	9	128	8
LIF	399	6	500	6	771	8	294	8	219	7
INT	676	1	903	1	1526	1	1029	1	930	1
PEO	388	7	471	7	1097	6	465	6	412	3
PAR	94	11	223	10	274	10	123	10	68	10
NOT	190	10	140	11	186	11	75	11	54	11

[a] A = grammar school or less; B = some high school; C = high school graduate + GED certificate; D = some postsecondary education; and F = college graduate or more.

[b] $H = 16.12$; $df = 4$; $.05 \geq 9.49$.

Table 20. Rank-order of institutional characteristics that most influenced curriculum and extension students to attend that institution

Institutional characteristic	Type of student			
	Curriculum		Extension	
	RS[a]	Rank	RS	Rank
Educational programs or courses available (PROG)	6757	2	5700	2
Financial assistance was available (ASST)	2157	6	622	9
Job placement services (PLAC)	1191	7	753	7
Location (nearness to your home) (LOCA)	6860	1	5732	1
Low cost (COST)	5714	3	4524	3
Open-door admissions policy (ADMS)	2516	5	2576	5
Quality of instruction (INST)	3568	4	4297	4
Student-centered instruction and activities (STUD)	1177	8	1448	6
Other (OTHE)	430	9	725	8

[a] $U = 36$; $.05 \leq 21$.

most in their selection of an institution to attend. As a matter of fact, curriculum and extension students gave identical rankings to the institutional characteristics they considered as the top five, i.e., location (nearness to your home), educational programs or courses available, low cost, quality of instruction, and open-door admissions policy. Curriculum students gave more importance than extension students to the availability of financial assistance, whereas extension students gave more importance to student-centered instruction and activities than did curriculum students. The foregoing findings of no significant differences do not support hypothesis VII.

Hypothesis VIII

> There are significant differences between students enrolled in different program areas with regard to institutional characteristics that influenced them most to attend that institution.

Although no significant differences were noted between curriculum and extension students with regard to institutional characteristics, when the students were compared by program area, significant differences were noted (Table 21). For example, vocational, technical, and fundamental education students ranked educational programs first and location second. College-transfer, occupational extension, and recreation extension students ranked location first. Students in all program areas ranked location, program, low cost, and quality of instruction as more important than other institutional characteristics. Hypothesis VIII is supported.

Hypothesis IX

> There are significant differences among curriculum students, by program area, with regard to the institutional characteristics that influenced them most to attend that institution.

The data in Table 22 show that significant differences existed among curriculum students with regard to institutional characteristics that influenced them to attend a particular institution. Therefore, hypothesis IX is supported.

When special credit and general education students were eliminated from the analysis, however, the significant differences disappeared (Table 23). For example, students in those two program areas valued financial assistance

Table 21. Rank-order of institutional characteristics, by program area

Institutional characteristic	Program area[a]							
	College-transfer		Technical		Vocational		Academic extension	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	829	3	3357	1	1364	1	1096	1
ASST	223	7	1118	5	515	5	137	8
PLAC	61	9	669	7	346	7	141	7
LOCA	1163	1	3270	2	1274	2	1035	2
COST	1054	2	2711	3	998	3	750	4
ADMS	545	5	1091	6	416	6	514	5
INST	564	4	1702	4	677	4	838	3
STUD	231	6	531	8	206	8	340	6
OTHE	89	8	172	9	85	9	93	9

Institutional characteristic	Fundamental education		Occupational extension		Recreation extension	
	RS	Rank	RS	Rank	RS	Rank
PROG	868	1	2865	2	869	3
ASST	137	9	316	8	32	9
PLAC	171	8	407	7	34	8
LOCA	690	2	2966	1	1039	1
COST	461	4	2420	3	891	2
ADMS	401	5	1297	5	364	5
INST	483	3	2165	4	810	4
STUD	307	7	599	6	201	6
OTHE	310	6	250	9	72	7

[a] General education and special credit program areas omitted.

[b] $H = 13.34$; df = 6; $.05 \geq 12.59$.

[c] Occupational extension includes apprenticeship, MDC, and MDTA program areas.

Table 22. Rank-order of institutional characteristics that most influenced curriculum students to attend that institution, by program area

Institutional characteristic	Program area									
	College-transfer		Special credit		General education		Technical		Vocational	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	829	2	739	1	469	2	3357	1	1364	1
ASST	223	7	117	6	168	6	1118	5	515	5
PLAC	61	9	46	9	69	8	669	7	346	7
LOCA	1163	1	615	2	538	1	3270	2	1274	2
COST	1054	3	496	3	455	3	2711	3	998	3
ADMS	545	5	256	5	207	5	1091	6	416	6
INST	564	4	396	4	230	4	1702	4	677	4
STUD	231	6	116	7	93	7	531	8	206	8
OTHE	89	8	51	8	34	9	172	9	85	9

[a] $H = 14.73$; df = 4; $.05 \geq 9.49$.

available and job placement services less than did technical and vocational students.

Hypothesis X

There are significant differences among extension students, by program area, with regard to the institutional characteristics that influenced them most to attend that institution.

When considering institutional characteristics that influenced extension students, significant differences were

Table 23. Rank-order of institutional characteristics that most influenced curriculum students to attend that institution, by college-transfer, technical, and vocational program areas

Institutional characteristic	Program area					
	College-transfer		Technical		Vocational	
	RS[a]	Rank	RS	Rank	RS	Rank
PROG	829	3	3357	1	1364	1
ASST	223	7	1118	5	515	5
PLAC	61	9	669	7	346	7
LOCA	1163	1	3270	2	1274	2
COST	1054	2	2711	3	998	3
ADMS	545	5	1091	6	416	6
INST	564	4	1702	4	677	4
STUD	231	6	531	8	206	8
OTHE	89	8	172	9	85	9

[a] $H = 5.29$; df = 2; .05 $\geq$ 5.99.

apparent (Table 24). However, when apprenticeship, MDC, and MDTA students were included under the occupational extension category, the significant differences completely disappeared (Table 25). Consequently, the significant differences resulted from the special emphases of those programs that were collapsed with occupational extension. For example, MDTA students valued finanical assistance more highly than students in other program areas--all MDTA students receive financial assistance. Likewise, apprenticeship students valued job placement more highly than the other extension students--job placement is an integral function of the apprenticeship program. However, a word of caution is appropriate here. The apprenticeship, MDC, and MDTA students represented such a small number in the sample that conclusions based on those numbers of necessity would be tenuous.

On the basis of the significant differences shown in Table 24, hypothesis X is supported.

Table 24. Rank-order of institutional characteristics that most influenced extension students to attend that institution, by program area

Institutional characteristic	Program area[a]							
	Academic extension		Appren-ticeship		Fundamental education		MDC	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	1096	1	41	3	868	1	88	1
ASST	137	8	8	8	137	9	2	8
PLAC	141	7	36	4	171	8	4	7
LOCA	1035	2	61	1	690	2	74	2
COST	750	4	58	2	461	4	44	4
ADMS	514	5	34	6	401	5	34	5
INST	838	3	35	5	483	3	50	3
STUD	340	6	4	9	307	7	33	6
OTHE	93	9	27	7	310	6	1	9

Institutional characteristic	MDTA		Occupational extension		Recreation extension	
	RS	Rank	RS	Rank	RS	Rank
PROG	38	2	2698	2	869	3
ASST	31	3	276	8	32	9
PLAC	18	6	349	7	34	8
LOCA	52	1	2779	1	1038	1
COST	28	5	2290	3	891	2
ADMS	17	7	1213	5	364	5
INST	28	4	2052	4	810	4
STUD	6	8	557	6	201	6
OTHE	0	9	222	9	72	7

[a] New and expanding industry program area not included because of too few responses.

[b] H = 45.3; df = 6; .05 $\geq$ 12.59.

Hypothesis XI

Among curriculum students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to (a) age, (b) sex and race, and socioeconomic characteristics as measured by (c) primary income, (d) occupation of head-of-household, and (e) level of education.

Table 25. Rank-order of institutional characteristics that most influenced extension students to attend that institution, by program area with occupational education as a collapsed category

Institutional characteristic	Program area[a]							
	Academic extension		Fundamental education		Occupational extension[b]		Recreation extension	
	RS[c]	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	1096	1	868	1	2865	2	869	3
ASST	137	8	137	9	316	8	32	9
PLAC	141	7	171	8	407	7	34	8
LOCA	1035	2	690	2	2966	1	1039	1
COST	750	4	461	4	2420	3	891	2
ADMS	514	5	401	5	1297	5	364	5
INST	838	3	483	3	2165	4	810	4
STUD	340	6	307	7	599	6	201	6
OTHE	93	9	310	6	250	9	72	7

[a] New and expanding industry program area not included because of too few responses.

[b] Includes occupational extension, apprenticeship, MDC, and MDTA programs.

[c] H = 5.85; df = 3; .05 ≥ 7.82.

Hypothesis XIa

> Among curriculum students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to age.

When compared by age group, significant differences were noted among curriculum students in their ranking of institutional characteristics that influenced their selection (Table 26). All curriculum students ranked location or educational program either first or second. However, as age increased, location was valued higher than program. As age increased, job placement services decreased in value and student-centered instruction and activities increased in value.

Table 26. Rank-order of institutional characteristics that most influenced curriculum students to attend that institution, by age

INST CHAR[a]	Age, yr									
	≤19		20-25		26-29		30-59		≥60	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	1443	2	2262	2	964	1	2050	1	25	1
ASST	370	7	691	6	423	5	652	6	4	7
PLAC	392	6	478	7	108	8	211	8	1	8
LOCA	1570	1	2381	1	931	2	1951	2	19	2
COST	1441	3	2096	3	747	3	1404	3	15	4
ADMS	592	5	935	5	294	6	678	5	15	5
INST	786	4	1208	4	475	4	1072	4	18	3
STUD	350	8	465	8	134	7	219	7	7	6
OTHE	87	9	203	9	56	9	84	9	1	9

[a] Institutional characteristic, in this and succeeding tables.

[b] H = 24.13; df = 4; .05 ≥ 9.49.

Hypothesis XIb

> Among curriculum students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to race and sex.

Several significant differences were noted among curriculum students in their ranking by institutional characteristics that most influenced them, when considered by race and sex (Table 27). For instance, all females valued location of the institution first and programs available second, whereas all males valued programs available first and location second. Nonwhites placed greater value than whites on financial assistance and job placement services. Whites placed greater value than nonwhites on quality of instruction and student-centered instruction and activities.

Hypothesis XIc

> Among curriculum students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to primary income.

Table 27. Rank-order of institutional characteristics that most influenced curriculum students to attend that institution, by race and sex

INST CHAR	Race and sex							
	Nonwhite				White			
	Female		Male		Female		Male	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	455	2	596	1	2370	2	3265	1
ASST	206	4	311	4	388	7	1214	6
PLAC	150	6	172	7	284	8	568	8
LOCA	456	1	566	2	2387	1	3402	2
COST	381	3	455	3	1923	3	2884	3
ADMS	163	5	234	6	850	5	1241	5
INST	150	7	288	5	1233	4	1862	4
STUD	83	8	102	8	403	6	571	7
OTHE	21	9	42	9	122	9	231	9

[a] $H = 15.93$; $df = 3$; $.05 \geq 7.82$.

Significant differences in the rankings of institutional characteristics that appeared to be related to primary income of curriculum students are shown in Table 28. The lower income groups placed more value on financial assistance than did the higher income groups. As income increased, the value placed on that characteristic decreased. The value placed on student-centered instruction and activities increased as income increased.

Hypothesis XId

> Among curriculum students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to occupation of the head-of-household.

No significant differences were noted in the rankings of institutional characteristics by curriculum students as related to occupation of the head-of-household (Table 29). Programs available and location were ranked either first or second across all occupational categories. Low cost and quality of instruction were ranked as third and fourth, respectively, across all occupational categories.

Table 28. Rank-order of institutional characteristics that most influenced curriculum students, by primary income

INST CHAR	Primary income													
	$2,999 or less		$3,000-5,999		$6,000-7,499		$7,500-9,999		$10,000-14,999		$15,000-19,999		$20,000 or more	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	854	2	684	2	501	2	1669	2	1796	1	327	2	239	1
ASST	415	5	345	4	200	5	519	6	412	6	32	8	27	8
PLAC	244	7	128	7	90	7	258	7	235	8	37	7	41	7
LOCA	899	1	751	1	515	1	1674	1	1772	2	332	1	236	2
COST	778	3	633	3	426	3	1368	3	1469	3	268	3	163	3
ADMS	377	6	255	6	180	6	555	5	649	5	139	5	100	5
INST	430	4	341	5	252	4	838	4	1033	4	189	4	144	4
STUD	174	8	102	8	88	8	258	8	298	7	53	6	58	6
OTHE	60	9	58	9	31	9	80	9	81	9	25	9	21	9

[a] $H = 23.75$; df = 6; $.05 \leq 12.59$.

Table 29. Rank-order of institutional characteristics that most influenced curriculum students, by occupation of the head-of-household

INST CHAR	Occupation of head-of-household[a]											
	A		B		C		D		E		F	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	924	1	1127	2	792	2	1369	2	980	2	1229	2
ASST	184	6	268	6	206	6	436	6	378	5	550	5
PLAC	108	8	171	8	110	8	235	8	197	7	284	7
LOCA	859	2	1209	1	809	1	1378	1	1034	1	1274	1
COST	670	3	970	3	733	3	1140	3	867	3	1061	3
ADMS	291	5	465	5	303	5	501	5	346	6	485	6
INST	489	4	615	4	448	4	760	4	508	4	604	4
STUD	163	7	212	7	134	7	241	7	154	8	203	8
OTHE	72	9	75	9	47	9	65	9	48	9	81	9

[a] A = professional or technical workers; B = business owners, managers; C = clerical or sales workers; D = skilled craftsmen, foremen; E = operate a machine or vehicle; and F = unskilled service or domestic workers.

[b] $H = 3.42$; $df = 5$; $.05 \geq 11.07$.

Hypothesis XIe

> Among curriculum students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to level of education.

Significant differences in curriculum students' rankings of institutional characteristics appeared to be related to their level of education (Table 30). Those students with the least education as compared with the other education categories valued low cost most. Programs available and location were valued highest across all categories, except where low cost was valued second by those students with the least education. Job placement services were more important to high school dropouts than to the other curriculum students. As level of education increased, the rank given student-centered instruction and activities also increased.

To summarize, hypothesis XI, which states that among curriculum students there are significant differences between institutional characteristics that influenced them most and certain of their general characteristics, is supported by the characteristics of age, race and sex, primary income, and level of education. It is not supported by occupation of the head-of-household.

Hypothesis XII

> Among extension students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to (a) age, (b) sex and race, and socioeconomic characteristics as measured by (c) primary income, (d) occupation of head-of-household, and (e) level of education.

Hypothesis XIIa

> Among extension students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to age.

When extension students were compared by age group, significant differences were noted in their rankings of institutional characteristics that most influenced them to attend

Table 30. Rank-order of institutional characteristics that most influenced curriculum students, by level of education

INST CHAR	Level of education[a]											
	A		B		C		D		E		F	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	67	1	228	1	3001	2	542	1	2373	2	498	1
ASST	29	6	76	7	1111	6	254	5	571	6	78	6
PLAC	19	7	78	6	636	7	93	7	328	8	29	9
LOCA	60	3	222	2	3091	1	536	2	2481	1	430	2
COST	63	2	147	3	2610	3	369	3	2184	3	304	3
ADMS	29	5	80	5	1130	5	194	6	923	5	142	5
INST	41	4	141	4	1556	4	264	4	1295	4	249	4
STUD	6	9	60	8	518	8	64	8	446	7	76	7
OTHE	7	8	33	9	163	9	23	9	159	9	38	8

[a] A = grammar school or less; B = some high school; C = high school graduate; D = GED certificate; E = some postsecondary education; and F = college graduate or more.

[b] H = 36.63; df = 5; .05 ≥ 11.07.

their institution, although the intensity of the differences among ranks was not great (Table 31). Programs available and location were valued highest among the characteristics across all age groups. However, as age increased, programs available was valued less, and as age decreased, location was valued less. (The opposite was true among the curriculum students.) Those students who were 26 to 59 years of age valued job placement services more and the institutional characteristic "other" less than did students in all other age categories

Table 31. Rank-order of institutional characteristics that most influenced extension students to attend that institution, by age

INST CHAR	Age, yr									
	≤19		20-25		26-29		30-59		≥60	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	505	1	1212	1	692	1	2814	2	466	3
ASST	109	9	178	9	61	8	257	8	17	8
PLAC	122	8	237	8	103	7	262	7	24	9
LOCA	385	2	1158	2	613	2	2950	1	607	1
COST	306	3	916	3	520	3	2338	3	429	4
ADMS	210	5	572	5	304	5	1239	5	240	5
INST	281	4	797	4	421	4	2251	4	535	2
STUD	174	6	351	6	152	6	590	6	178	6
OTHE	133	7	269	7	55	9	233	9	34	7

[a] $H = 11.94$; df $= 4$; $.05 \geq 9.49$.

Hypothesis XIIb

> Among extension students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to race and sex.

Although analysis of the data revealed differences in rankings of influential institutional characteristics among extension students that were attributable to either race or sex, none were significant (Table 32). For example, males and females differed as to which characteristic--location or programs available--they ranked highest. Nonwhite males also differed more than nonwhite females, white females and white males in their valuation of institutional characteristics.

Table 32. Rank-order of institutional characteristics that most influenced extension students to attend that institution, by race and sex

INST CHAR	Race and sex							
	Nonwhite				White			
	Female		Male		Female		Male	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	984	2	536	1	2777	2	1276	1
ASST	149	8	140	9	124	8	172	9
PLAC	250	7	185	6	124	9	190	8
LOCA	1143	1	384	2	2958	1	1132	2
COST	974	3	247	5	2361	3	861	3
ADMS	576	5	259	4	1101	5	553	5
INST	830	4	287	3	2282	4	846	4
STUD	276	6	176	8	610	6	342	6
OTHE	46	9	180	7	186	7	289	7

[a] $H = 5.17$; df $= 3$; $.05 \geq 7.82$.

Hypothesis XIIc

> Among extension students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to primary income.

Significant differences in extension students' rankings of institutional characteristices that influenced them most which appeared to be related to their primary income appear in Table 33. For example, all income groupings placed the highest values on location and programs available. As income increased, the value assigned to low cost generally decreased and that assigned to the quality of instruction generally increased. Likewise, as income increased, the value assigned to job placement services decreased and that assigned to the reason labeled "other" increased.

Hypothesis XIId

> Among extension students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to occupation of head-of-household.

Table 33. Rank-order of institutional characteristics that most influenced extension students, by primary income

INST CHAR	Primary income													
	$2,999 or less		$3,000-5,999		$6,000-7,499		$7,500-9,999		$10,000 14,999		$15,000-19,999		$20,000 or more	
	RS[a]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	1160	2	570	1	368	2	1149	1	1195	1	225	1	159	1
ASST	240	8	61	8	38	8	99	9	71	9	5	9	6	8
PLAC	290	7	87	7	38	7	136	7	80	8	11	8	5	9
LOCA	1270	1	566	2	379	1	1053	2	1188	2	224	2	132	2
COST	974	3	421	3	308	3	903	3	957	3	148	4	99	4
ADMS	695	5	267	5	180	5	471	5	462	5	110	5	51	5
INST	898	4	390	4	295	4	869	4	848	4	185	3	100	3
STUD	359	6	133	6	85	6	312	6	243	6	39	6	25	6
OTHE	113	9	45	9	17	9	134	8	89	7	18	7	16	7

[a] $H = 24.94$; df = 6; $.05 \geq 12.59$.

As with curriculum students, no significant differences were found between extension students' rankings of institutional characteristics with regard to occupation of head-of-household. Location and programs available were ranked either first or second by all categories. Third or fourth rankings were given by all categories to the characteristics of low cost and quality of instruction. These data appear in Table 34.

Hypothesis XIIe

> Among extension students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to level of education.

No significant differences were noted in extension students' rankings of institutional characteristics that most influenced their selection with regard to level of education (Table 35). All education categories ranked location and programs available either first or second, and low cost and quality of instruction either third or fourth.

Hypothesis XII states that among extension students there are significant differences between institutional characteristics that influenced them most in selecting that institution with regard to certain general characteristics. Hypothesis II is supported with regard to age, race and sex, and primary income. It is not supported with regard to the characteristics of occupation of the head-of-household and level of student's education.

Summary of Results

The purposes of this portion of the larger research project was to ascertain curriculum and extension students' value orientations toward education and the institutional characteristics which most influenced the selection of institution attended.

Certain general characteristics of the curriculum and extension students were examined. The largest age group were the 30-59 year olds (40%); the next largest age group were 20-25 (27%). The smallest age group was represented by those students who were 60 or over, with 4% in that category. The population was about evenly divided by sex (45% females and 55% males) and the majority (75%) were white.

Enrollments among the curriculum students ranged from 47% in the technical program area to 8% in general education

Table 34. Rank-order of institutional characteristics that most influenced extension students, by occupation of the head-of-household

INST CHAR	Occupation of head-of-household[a]											
	A		B		C		D		E		F	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	832	2	951	1	574	1	914	2	894	1	1130	2
ASST	27	9	66	8	34	9	116	7	106	8	198	8
PLAC	30	8	73	7	56	7	115	8	185	7	228	7
LOCA	857	1	912	2	549	2	941	1	852	2	1190	1
COST	670	3	684	3	480	3	746	3	704	3	940	3
ADMS	308	5	340	5	222	5	438	5	432	5	637	5
INST	625	4	680	4	402	4	713	4	655	4	884	4
STUD	215	6	210	6	106	6	209	6	202	6	342	6
OTHE	76	7	62	9	54	8	104	9	57	9	125	9

[a] A = professional or technical workers; B = business owners, managers; C = clerical or sales workers; D = skilled craftsmen, foremen; E = operate a machine or vehicle; and F = unskilled service or domestic workers.

[b] $H = 6.07$; df = 5; $.05 \geq 11.07$.

Table 35. Rank-order of institutional characteristics that most influenced extension students, by level of education

INST CHAR	Level of education[a]									
	A		B		C		D		E	
	RS[b]	Rank	RS	Rank	RS	Rank	RS	Rank	RS	Rank
PROG	610	2	1095	1	2230	1	879	2	806	1
ASST	75	8	163	9	277	8	60	9	25	9
PLAC	71	9	214	7	323	7	70	8	47	8
LOCA	700	1	1053	2	2143	2	960	1	806	2
COST	509	4	790	3	1786	3	769	3	607	3
ADMS	399	5	517	5	937	5	389	5	291	5
INST	551	3	773	4	1601	4	703	4	600	4
STUD	280	6	264	6	479	6	201	6	188	6
OTHE	126	7	194	8	196	9	108	7	94	7

[a] A = grammar school or less; B = some high school; C = high school graduate and GED certificate; D = some postsecondary education; and F = college graduate or more.

[b] $H = 6.37$; df = 4; $.05 \geq 9.49$.

For extension students, 49% were enrolled in occupational extension and only 1% in the apprenticeship program. Students' primary income ranged from 11% in the less than $3,000 category to 8% in the $20,000 or more income category. The largest representation for occupation of head-of-household was the 19% who were classified as skilled craftsmen, foremen (not farm) and the smallest was farm foremen, represented by less than 1%. Enrollment by level of education showed 45% were either high school graduates or held the GED certificate. The next largest educational category were those with some postsecondary education (25%). Slightly over 8% each were represented in the grammar school or less and the college graduate or more categories.

Rank-orders were used in testing reasons that curriculum and extension students were continuing educational pursuits and in determining which institutional characteristics most influenced their selection of the institution attended.

When the rankings given by all students for continuing educational pursuits at CC/TI were examined by program area, significant differences were noted. But when the rank-orders of reasons given by all curriculum (credit) students and by all extension (noncredit) students were compared, no significant differences were observable. Thus it would appear that students within the curriculum program and extension areas differed with regard to their value orientations toward education.

Significant differences among students' value orientations toward education were found within curriculum program areas. However, when the rank-orders of general education and special credit programs were eliminated, the significant differences disappeared. In other words, college-transfer, technical, and vocational program students did not differ significantly with regard to their value orientations toward education. It would appear that the significant differences that existed were among general education and special credit students when compared with students in other programs within the curriculum area.

Significant differences were found among curriculum students' reasons for continuing education with regard to the demographic variables of sex, race, and age. There also were significant differences when comparing their value orientations toward education with two of the measures of socioeconomic status--primary income and level of education. However, when head-of-household's occupation was compared with reasons for continuing education, no significant differences existed.

Rank-orders given reasons for continuing education by extension students in the various program areas revealed that they were more diverse than curriculum students in their value orientations toward education. In fact, extension students differed significantly in their value orientations toward education with regard to all demographic and all socioeconomic variables studied, i.e., sex, race, age, level of education, primary income, and occupation of head-of-household.

When the influence of institutional characteristics was treated, no significant differences were found between curriculum and extension students. The institution's location, programs available, low cost, and quality of instruction were ranked in that order by all the students. The same progression of influence among institutional characteristics was noted for extension students, with the exception of those in apprenticeship and MDTA programs. Even among these exceptions, the four characteristics fell within the first five ranks. The least influential institutional characteristics for both extension and curriculum students were financial assistance available, job placement services, the "other" category, and student-centered instruction and activities.

Significant differences were noted among curriculum students when institutional characteristics that most influenced their selection of an institution to attend were compared with their sex, race, age, and all measures of socioeconomic status except occupation of head-of-household. The same comparisons for extension students revealed significant differences with regard to age and primary income, but not for race and sex, occupation of head-of-household, or student's level of education.

CONCLUSIONS, IMPLICATIONS, AND RECOMMENDATIONS

This study of curriculum and extension students in the North Carolina Community College System had four specific objectives:

--To determine curriculum and extension students' value orientations toward education;

--To ascertain how value orientations toward education differed among those students with regard to program area selection and certain demographic and socioeconomic characteristics.

--To determine those institutional characteristics which influenced curriculum and extension students most in selecting an institution to attend; and

--To ascertain whether or not those institutional characteristics considered most influential differed among the students with regard to program area selection and certain demographic and socioeconomic characteristics.

Conclusions

Curriculum and extension students differed considerably in their value orientations toward education. With respect to program area of selection, curriculum (credit) students were primarily Vocational-Monetary oriented; extension (non-credit) students were primarily Improvement-Learning oriented. Among curriculum students, those in the smaller, specialized program areas (special credit and general education) were more Improvement-Learning oriented than were those in the larger, general program areas.

Student value orientations toward education differed with respect to certain demographic variables. Students in the youngest and oldest age categories differed most in their value orientations toward education. The youngest group was Vocational-Monetary oriented, whereas the oldest group was Social-Cultural oriented. Curriculum students differed in their value orientations toward education according to sex more than race, whereas the opposite was true for extension students.

Curriculum and extension students' value orientations toward education also differed with respect to certain socioeconomic variables. Primary income appeared to be a better indicator of value differences among extension (noncredit) students than level of education or occupation of the head-of-household. Among curriculum (credit) students, level of education appeared to be a better indicator of value differences than primary income or occupation of head-of-household.

Those institutional characteristics that most influenced curriculum and extension students in selecting an institution to attend differed with regard to program area selection. However, those differences existed for the most part among students enrolled in the relatively small, specialized program areas. Students who were enrolled in the larger program areas of both curriculum (credit) and extension (noncredit) agreed that the institution's location, its program (course offerings), the low cost of tuition, and the quality of instruction were the most influential characteristics. However, for the vast majority of the subject students, the institution's location and its program (course offerings) were the most influential characteristics.

The most influential institutional characteristics also differed with respect to certain demographic variables. Whereas among curriculum (credit) students age and race-sex helped explain differences, among extension (noncredit) students, age was the better measure of differences.

The most influential institutional characteristics differed with respect to certain socioeconomic variables. Differences among curriculum (credit) students were according to level of education and primary income. Differences among extension (noncredit) students were according to primary income.

Implications and Recommendations

The findings of this study have numerous practical implications for the NCCCS. Curriculum and extension students' value orientations toward education have been determined (assuming the representativeness of the sample). By utilizing this information, planners, programmers, instructors, counselors, administrators, etc., should be able to assess the priorities under which they choose to work. The fact that the curriculum students in this study were more alike than different in their value orientations toward education (the reasons they continued their education) should lead to a lessening in the degree to which they may have been distinguished from each other in institutional settings, so far as their value orientations are concerned. Students who were enrolled in small but specialized program areas differed in their value orientations toward education when compared to students in other program areas. Particular attention should be directed toward this difference, especially in counseling and program planning for students in such small, specialized program areas as special credit and general education.

Since extension students appeared to be motivated most by the desire to learn something of interest to them, and since these students considered location the most important institutional characteristic, a careful reassessment of student learning needs and increased off-campus offerings are recommended.

The "open-door" admissions concept has been emphasized as an important characteristic of NCCCS institutions. Essentially, "open-door" admission means that any adult may become a student in any one of the System's institutions in a program or course that best fits his interests and abilities. None of the categories of students in this study ranked the "open-door" admissions policy higher than 5 (most categories ranked it fifth), except nonwhite males, who ranked it fourth. One therefore may imply that those students sampled, having gained admission to an institution, had no reason to rank "open-door" admissions policy among the four most influential institutional characteristics.

Theoretical Issues

The findings of this study generally confirmed the validity of the Houle typology, a prototype that characterizes reasons why adults seek continuing education. Although a fourth caregory--External Expectations-Escape Orientation--was a necessary modification to Houle's typology for the purposes of this study, it did not appear to be a significant factor in determining reasons why curriculum and extension students were continuing their education in the NCCCS.

The findings of this study appeared to support the contention that level of education and income are the best indicators of value differences among people (Rokeach, 1973), and that the higher the primary income and level of students' education, the greater the value placed on those reasons that comprise a Social-Cultural value orientation (Hyman, 1953). While differences in value orientations toward education were found, there was sufficient commonality among the subject students to suggest that Getzels (1972) was right in contending that there is a dominant value order at any given point in time. Contrary to Mortimer's (1973) findings, occupation of the head-of-household was not a significant factor in the determination of value orientations toward education among the curriculum (credit) students in this study. Significant differences were found, however, among the extension (noncredit) students.

Implications for Research

Havighurst and Orr (1956) explored the concept of developmental tasks and social roles perceived by adults as meaningful and necessary in order to "live better." They postulated that developmental tasks and social roles are determined by three forces: (1) the value expectations of society, (2) the maturing and aging of the body, and (3) personal values and aspirations. According to Havighurst (1955, p. 1):

> There are fully as many new problems to solve and new situations to grasp during the adult years as there are during the earlier periods of life. Adulthood has its transition points and its crises. It is a developmental period in almost as completely a sense as childhood and adolescence are developmental periods.

In light of the foregoing concepts of developmental tasks and social roles among adults, it would seem that, in planning educational programs for adults, some consideration should be given to: (1) how adults could best benefit from the program, (2) how the program might contribute to the maturity of the adult, and (3) which programs have greater application to which groups of adults. In this context one may ask: Based on the findings of this study, what relationship does value orientation toward education have to the concepts of developmental tasks and social roles of adults? If developmental tasks change with periods of age, do value orientations toward education also change? to what extent?

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ADDENDA

Addendum 1: Handbook on Sampling and Data Collection

Department of Adult and Community College Education
North Carolina State University at Raleigh

Ronald W. Shearon, Project Director
Robert G. Templin, Jr., Primary Researcher
David E. Daniel, Assistant Researcher

OBJECTIVES:

A. To have 965 students complete questionnaires at each institution before the end of the Spring Quarter.
B. To have each class instructor complete an evaluation sheet.
C. To check institutional records against 30 randomly drawn questionnaires at each institution.

PROCEDURES:

1. Make contact with the institutional project coordinator who has been assigned by each institution to assist you, telling him/her what you are going to do, when you plan to arrive, and what assistance you will need. (A record should be kept of all long-distance telephone calls.)

   You will need:

   a. The institutional project coordinator to assist you in distributing and collecting 965 questionnaires, as well as in making other necessary institutional contacts.

   b. A master class list that contains a listing of all noncredit extension and credit curriculum classes (not courses) currently being conducted both on-campus and off-campus by the institution. If this list can be sent to you in advance, you will save time by being able to draw your sample before your arrival. If this is not possible, you will have to draw your sample at the time you visit the institution.

c. An estimate of the approximate average class size for all classes currently being conducted.

d. The date of the last week of classes prior to final examinations at each institution so you can schedule your visit to allow one full week for distribution and completion of questionnaires so as not to run into exam week. If such scheduling is not possible, check to see if questionnaires can be completed during final examinations. If this is not possible, telephone Bob Templin or Dr. Shearon immediately.

e. Permission to have access to student files (you or someone at the institution will be needed to check 30 of the completed questionnaires against institutional student files to determine the reliability of student responses on certain questions).

2. Sampling Design. Upon receiving the master list of classes, choose the specific classes to be included in your sample by strictly following the sampling design below (an example of how this would be done with a hypothetical institution is appended at the end of the handbook).

a. Secure the master list of all classes.

b. Reorder the list so that all curriculum classes are listed together first, followed by all noncredit extension classes listed together.

c. Find out the average class size for all classes (have the institutional project coordinator estimate, or if more accurate data are available, calculate average class size).

This average is the value to be used for $\bar{c}$ in the formula below.

Beside each class listing, place the cumulative average class size. EXAMPLE: (at an institution with an average class size of 30), $\bar{c} = 30$,

Class	Cumulative average class size
English C-101	30
Spanish C-102	60
Auto Mechanics T-104	90
ABE-01	120
GED-01	150

d. From your master list of all classes, find out the total number of classes currently being conducted. This number is the value to be used for M in the formula below.

e. Multiply these two numbers together to get the total duplicated student headcount (not the total enrollment at the institution):

$$(\overline{c})(M) = S,$$

where S = total duplicated student headcount at a given institution. The number you get for S will be used in the formula below.

f. To find the number of classes to be included in the sample (m), multiply M times 965 and divide by S:

$\frac{(965)(M)}{S} = m$ (round it up to the nearest whole number; e.g., 62.1 → 63)

m = number of classes to be included in the sample.

g. To find the specific classes to be included in the sample, find the Institutional Sampling Gap (I.S.G.) by the following formula:

$$\frac{S}{m} = \text{I.S.G.}$$

h. Using a table of random digits, choose a five-digit number (if $S > 9{,}999$) or a four-digit number (if $S < 9{,}999$). After finding this number, locate on your listing of cumulative average class size the class within which that number falls. This becomes the first class to be included in the sample. Then add the I.S.G. to the first number drawn from the table of random digits and locate the class within which this new number falls. This then becomes the second class to be included in the sample. Repeat this process of adding the I.S.G. to the last figure until you have done it m times (m = number of classes to be included in the sample). You should now have your sample.

3. After selecting classes to be included in the sample, prepare packages of materials to be sent to each class, including:

   a. A letter to the instructor with an attached instructor evaluation sheet (be sure to fill in the name of instructor and class number and section on the letter to be sent); and

   b. The appropriate number of student questionnaires.

4. After preparing the above packages, distribute them to the appropriate instructors (you and/or the institutional project coordinator may do this), following these guidelines:

   a. In the first three credit classes scheduled to complete the questionnaires, inform the instructor that students are to print their names on the top of their questionnaires. All other classes are not to identify students who take the questionnaire.

   b. You may meet the instructors of classes selected for study if you wish to provide directions to them before class; you may take part in the actual distribution of the questionnaires to students and in giving directions to students on completing the questionnaires. However, you should not assist students in answering any part of the questionnaire. To do so may bias student responses.

5. Be sure that the instructors know:

   a. Which of their classes they are to administer the questionnaire to (some instructors most certainly will teach more than one class);

   b. They are to report the number of absentees who did not complete the questionnaire;

   c. They are to keep enough extra copies of the questionnaire so they can distribute these extra copies to students when they return; and

   d. They are to return the questionnaires and instructor evaluation sheets to the institutional project coordinator.

6. Be sure that the institutional project coordinator at each institution is provided the following information:

   a. As completed questionnaires are received by him/her, they should be bundled together, each class by itself, with the instructor evaluation sheet on top.

   b. Provide him/her with a telephone number where you can be reached in the event any problems occur after you leave the institution. In addition, provide him/her with Dr. Shearon's telephone number in case you cannot be reached. They may call collect.

   c. A letter of endorsement or authorization from an institutional official to accompany questionnaires to instructors will be helpful.

7. If you are present when completed questionnaires are returned by the three classes where students printed their names on top of the questionnaires, you may complete the final phase of the data collection in this manner:

   a. Thoroughly mix the student questionnaires from each class separately.

   b. Select every third questionnaire.

   c. You or someone at the institution pull the student file of each questionnaire selected by this process.

   d. Check the student's file against student questionnaire responses of the following six questions: QUESTIONS I, N, Y, Z, AA, and BB.

   e. If the student's response on the questionnaire is different from that listed in his file, circle in red ink the response on the questionnaire that is indicated as being correct by the student file.

NORE: If you are not present when completed questionnaires are returned by the three classes where students printed their names at the top of the questionnaire, whoever arrives to collect all the questionnaires from the institution will conduct this final phase.

8. If you run into any problems during the data-gathering process where you are unable to resolve the problem, telephone Mrs. Brenda Warren and explain the problem. Dr. Shearon or Bob Templin will return the call as soon as possible.

EXAMPLE OF SAMPLING DESIGN

Master Class List

	Class	Cumulative average class size	Sampling cycle	
Curriculum (credit)				
1.	ENG 9300-01	30		
2.	MATH 9303-01	60	31.75	33.
3.	CHM 9200-01	90	70.00	1.
4.	CHM 9200-02	120		
5.	CHM 9200-03	150	124.55	2.
6.	RDN 9210-01	180		
7.	RDN 9210-02	210	189.10	3.
8.	ENG 9310-01	240		
9.	ENG 9310-01	270	243.65	4.
.	.	....	....	..
.	.	....	....	..
.	.	....	....	..
30.	MATH 9360-01	900		
Extension (noncredit)				
31.	ABE-01	930	908.25	16.
32.	ABE-02	960		
33.	GED-01	990	962.80	17.
34.	GED-02	1020	1017.35	18.
35.	Interior Design-01	1050		
.	.	....	....	..
.	.	....	....	..
.	.	....	....	..
59.	Physical Fitness-01	1770		
60.	Card Playing-01	1800	1781.10	32.

965 = number of students to complete the questionnaire (constant for all institutions).

$\bar{c}$ = 30 (avg. class size)

M = 60 (total number of classes given by the institution)

S = 1800 (total duplicated student headcount); $(\bar{c})(M) = S$

m = 33 (number of classes to be included in the sample)

$$m = \frac{(965)(M)}{S} = \frac{(965)(60)}{1800} = \frac{57900}{1800} = 32.1 \text{ rounded up to } 33.$$

In this example, a four-digit number (since S < 9,999) is drawn from the table of random digits. In this case, the number 5470 was randomly chosen. Reduce this number by S until it falls within your range:

$$\begin{array}{r}5470\\-1800\\\hline 3670\end{array}\qquad\begin{array}{r}3670\\-1800\\\hline 1870\end{array}\qquad\begin{array}{r}1870\\-1800\\\hline 0070\end{array} = \text{the first sampling number}$$

Find the class in the cumulative average class size within which 70 falls. In this case, it would be the third class listed (CHM 9200-01). It is the first class to be included in your sample. Now add the I.S.G. to 70 to get the next class to be included in the sample. In this case, I.S.G = 54.55. See below as to how I.S.G.s are added each time a new class is drawn into the sample.

USING THE INSTITUTIONAL SAMPLING GAP (I.S.G.)
(from the preceding problem)

Sample class	Previous sample number	+	Institutional sampling gap	=	New sample number	→	Specific class selected
1.	0.00		0.00		70.00		CHM 9200-01
2.	70.00		54.55		124.55		CHM 9200-03
3.	124.55		54.55		189.10		RDN 9210-02
4.	189.10		54.55		243.65		ENG 9310-02
..	....		.....		....		....
..	....		.....		....		....
..	....		.....		....		....
16.	853.70		54.55		908.25		ABE-01
17.	908.25		54.55		962.80		GED-03
18.	962.80		54.55		1017.35		GED-04
..	....		.....		....		....
..	....		.....		....		....
..	....		.....		....		....
32.	1726.55		54.55		1781.10		Card Playing-01
33.	1781.10		54.55		1831.75		
					-1800.00		
					31.75		MATH 9303-01

Addendum II: Rationale and Criteria for the Determination of Student Nonresponses and Percentage of Student Response by Institution

Department of Adult and Community College Education
North Carolina State University at Raleigh

Ronald W. Shearon, Project Director
Robert G. Templin, Jr., Primary Researcher
David E. Daniel, Assistant Researcher

- -

The ideal sample size can be broken into a number of components that will allow investigators to determine actual sample size, actual nonresponse, and percentage of student response by institution and for the entire sample:

$$\text{Ideal sample} = \text{Usable responses} + \text{Non-responses} + \text{Overestimation of average class size} + \text{Class cancellations}$$

Definitions

Ideal sample is the number of desired student responses per institution as called for in the sample design. This number was constant for all institutions (965).

Usable responses are the number of student responses at a given institution that were sufficiently completed to be included in the investigation.

Nonresponses are the number of student responses at a given institution that were not included in the investigation due to:

1. Student refusal to respond to the questionnaire or his absence from class while questionnaires were administered;
2. Unusable student responses that were received but insufficiently complete or apparently sabatoged;
3. Instructor refusal to allow his class to participate in the study; and/or
4. Unaccounted for classes that were included in the actual sample but from which no student responses were received.

Overestimation of average class size is the number of expected student responses not received due to estimation errors in calculating the average class size at a given institution.

Class calculations are the number of expected student responses not received due to the cancellation of classes chosen for inclusion in the ideal sample at a given institution.

Discussion

To the degree materials and other information upon which the sample selection was based were accurate, actual sample size approximated the ideal sample size. If the estimated average class size exceeded the actual average size, the resulting actual sample size would be smaller than the ideal sample size. Likewise, if a number of classes selected for inclusion in the sample had been cancelled prior to the time period studied by investigators, the resulting actual sample size would be smaller than the ideal sample size. The decrease in the ideal sample size attributed to these estimation errors are not included in the computation of the actual sample size or percentage of response, since they were never truly present in the population and cannot, therefore, represent nonresponses:

Actual sample = Usable responses + Nonresponses.

INSTITUTIONAL CALCULATION SHEET

(For determining number of student nonresponses, actual sample size, and percentage of student responses)

INSTITUTION: ______________________________

1. Ideal sample size
(Constant for all institutions) ______

2. Average class size
(Compute from institutional "sampling work papers") ______

3. Usable responses
(Calculate from computer printout) ______

4. Nonresponses
(Compute by adding a, b, c, and d below) ______

   a. Student absences or refusals
   (Compute from faculty evaluation sheets) ______

   b. Unusable or sabatoged student responses (compute from institutional file folder) ______

*c. Instructor refusals ______
(Compute from instructor evaluation sheets and institutional file folder; if enrollment by class is known, add enrollments of all class refusals; if not known, multiply number of class refusals by average class size)

*d. Unaccounted for classes ______
(Compute from institutional "sampling work papers"; if enrollment by class is known, add enrollments of all unaccounted for classes; if not known, multiply number of classes by average class size)

5. Class cancellations ______
(Compute by multiplying number of cancelled classes times average class size)

6. Overestimation of average class size ______
(Compute by adding usable responses, nonresponses, and class cancellations together and subtracting that total from the ideal sample size)

7. Actual sample size ______
(Compute by adding class cancellations and overestimation of average class size and subtract that total from ideal sample size)

8. Percentage response ______%
(Compute by dividing usable responses by actual sample size)

- -

*As a follow-up of nonrespondents, identify number of student nonrespondents from 4c and 4d above as follows:

Curriculum total ______
Transfer ______
Technical ______
Vocational ______
Other curriculums ______
Extension total ______

Total N = 10,074

Usable responses		Institution	Percentage response[a]
548	01	Rowan	72.68
630	02	Forsythe	69.84
493	03	Alamance	60.27
809	04	Southeastern	81.72
1108	05	Coastal Carolina	80.70
389	06	Caldwell	36.63
618	07	Wilkes	66.52
563	08	Rockingham	57.57
534	09	Central Piedmont	73.86
654	10	Gaston	88.62
625	11	Halifax	76.13
590	12	Roanoke-Chowan	86.76
816	13	Cape Fear	80.07
472	14	Blue Ridge	66.53
330	15	Anson	84.18
895	16	Central Carolina	82.19

[a] Total percentage response = 73.40.

Target sample size = 15,440
Usable responses = 10,074
Nonresponses = 3,797

Absences = 1,748
Unusable = 46
Instructor refusal = 221
Unaccounted for classes = 1,782
3,797

Overestimation of class size = 2,220
Actual sample size = 13,723
Total percentage response = 73.40%

Addendum III: Final Research Instrument

STATE BOARD OF EDUCATION

Department of Community Colleges
Raleigh, North Carolina

Do not write
in this area
(1-6)

STUDENT PROFILE QUESTIONNAIRE

PART I: SOCIOECONOMIC CHARACTERISTICS

INSTRUCTIONS: This is a scientific study of students who are currently enrolled in North Carolina technical institutes and community colleges. Below are 45 questions which we want you to complete to the best of your knowledge. Please read each question carefully and clearly place in the box provided the number of the response which best answers the question. If you have completed this questionnaire in another class, it is important for you to complete it again. Individual responses will be kept strictly confidential. Thank you.

A. How many times have you completed this questionnaire?

☐
1. This is the first time.
2. This is the second time.
3. This is the third time.
4. Four or more times (Specify)____________________

B. Sex

☐
1. Female
2. Male

EXAMPLE: If you are female, your response to question B would be:
Sex
[1]
1. Female
2. Male

C. Race

☐
1. Black
2. Indian
3. White
4. Other (Specify)____________

D. Age

☐
1. Less than 18
2. 18
3. 19
4. 20-22
5. 23-25
6. 26-29
7. 30-39
8. 40-49
9. 50-59
10. 60-69
11. 70-79
12. Over 79

E. Marital status

☐
1. Single or engaged
2. Married
3. Widowed
4. Separated
5. Divorced

F. When do you attend most of your classes?

☐
1. Day
2. Evening (most classes after 5 p.m.)

G. Have you ever been a full-time student at a 4-year college or university?

☐
1. Yes
2. No

H. How many hours are you in class per week?

☐
1. 1-5
2. 6-10
3. 11-15
4. 16-20
5. 21-25
6. 26-30
7. Over 30

I. How many different courses are you taking this quarter?

☐
1. One
2. Two
3. Three
4. Four
5. Five
6. Six
7. Seven
8. Eight
9. Over eight (Specify)________

J. Are you a military veteran?

☐
1. Yes
2. No

K. Are you a resident of North Carolina?

☐
1. Yes (If this is your response, go to question L)
2. No (If this is your response, go to question M)

L. If you are a resident of North Carolina, is this institution located in your home county?

☐
1. Yes
2. No

M. Classification

1. Noncredit Extension student
2. New freshman

☐

3. Returning freshman (completed more than one full quarter but not yet a sophomore)
4. Sophomore

N. In what program area are you currently enrolled? (Indicate only one of the following.)

Credit Programs

1. COLLEGE TRANSFER--If this is your response, go directly to question R.

2. GENERAL EDUCATION (two-year general education degree program)--If this is your response, go directly to question R.

3. SPECIAL CREDIT STUDENT (taking one or more credit courses, but not enrolled in a formal degree, certificate, or diploma-awarding program)--If this is your response, go directly to question R.

4. TECHNICAL (two-year occupational degree program)--If this is your response, go directly to question R.

5. VOCATIONAL (one-year or less occupational certificate or diploma program)--If this is your response, go directly to question R.

☐

Noncredit Extension Programs:

6. ACADEMIC EXTENSION (noncredit extension courses in the humanities, math, philosophy, politics, social science, or science)--If this is your response, go directly to question P.

7. APPRENTICESHIP PROGRAM--If this is your response, go directly to question P.

8. FUNDAMENTAL EDUCATION (Adult Basic Education, High School Diploma or Equivalency Certificate, Learning Laboratory)--If this is your response, go directly to question O.

9. MDC JOB TRAINING PROGRAM--If this is your response, go directly to question P.

10. MANPOWER DEVELOPMENT AND TRAINING (MDTA)--If this is your response, go directly to question P.

11. NEW AND EXPANDING INDUSTRY TRAINING--If this is your response, go directly to question P.

12. OCCUPATIONAL EXTENSION (noncredit technical or vocational extension courses)--If this is your response, go directly to question P.

13. RECREATION EXTENSION (noncredit extension athletic, game, hobbies course or seminar)--If this is your response, go directly to question P.

O. If enrolled in a noncredit Fundamental Education course or program, select which one of the below you are in and go directly to question P.

☐

1. Adult Basic Education (ABE)
2. High School Diploma program for adults
3. High School Equivalency Certificate (GED) program
4. Learning Laboratory

P. NONCREDIT EXTENSION STUDENTS ONLY: Do you plan to enter this or some other educational institution in a credit program at a later date?

☐

1. Yes
2. No

Q. NONCREDIT EXTENSION STUDENTS ONLY: Is this the first course offered by this institution in which you have been enrolled?

☐

1. Yes
2. No

R. Residence while enrolled in this institution

☐

1. Live with parents
2. Live with spouse (husband/wife)
3. Live with other relative
4. Live with another family (not relative)
5. Live alone
6. Live with other students
7. Other (Specify)____________________

S. Distance to class each day (one way)

☐

1. Less than 1 mile
2. 1-5 miles
3. 6-10 miles
4. 11-15 miles
5. 16-20 miles
6. 21-25 miles
7. 26-30 miles
8. 31-35 miles
9. Over 35 miles

T. In addition to yourself, what one person influenced you most in deciding to attend this institution? (Choose only one)

☐

1. Community college/technical institute recruiter or other institutional personnel
2. Employer
3. 4-year college/university personnel
4. Academic high school teacher
5. High school coach
6. High school counselor
7. Vocational high school teacher
8. Parent
9. Spouse
10. Other relative
11. Friend (not a student)
12. Student
13. Social service agency (Employment Security Commission, Vocational Rehabilitation, Welfare, etc.)
14. Other (Specify)______________________________

U. How did you first learn of the program or course in which you are now enrolled? (Choose only one)

1. Community college/technical institute recruiter or other institutional personnel
2. Employer
3. 4-year college/university personnel
4. Academic high school teacher
5. High school coach
6. High school counselor
7. Vocational high school teacher ☐
8. Literature from the institution
9. TV, radio, newspaper
10. Parent
11. Spouse
12. Other relative
13. Friend (not a student)
14. Student
15. Social service agency (Employment Security Commission, Vocational Rehabilitation, Welfare, etc.)
16. Other (Specify)________________________

V. Would you have attended another educational institution this year if this institution had not existed?

☐
1. Yes
2. No

W. Was this institution your first choice among postsecondary institutions for continuing your education?

☐
1. Yes
2. No

X. If your answer to the above question was "No," which type of institution was your first choice?

☐
1. Other technical institute or community college
2. Private two-year college
3. Public four-year college or university
4. Private four-year college or university
5. Other (Specify)________________________

Y. What is the highest grade in school you have completed?

☐
1. Less than 7th grade
2. 7th-8th grade
3. 9th-11th grade
4. High school graduate
5. GED diploma
6. One year beyond high school
7. 2-3 years beyond high school
8. College graduate
9. Graduate work

Z. High school curriculum

☐
1. Business
2. College preparatory
3. General
4. Vocational
5. Other (Specify)
____

AA. What was your grade average in high school? (Estimate)

☐
1. A (90-100)
2. B (80-89)
3. C (70-79)
4. Below C (less than 70)
5. Did not go to high school

BB. What was your high school rank upon graduation? (Estimate)

☐
1. Upper one-third
2. Middle one-third
3. Lower one-third
4. Did not graduate from high school

CC. What is the highest grade your father has completed? (Estimate. Please complete even if you no longer live with your father, or even though he is no longer living.)

☐
1. Less than 7th grade
2. 7th-8th grade
3. 9th-11th grade
4. High school graduate
5. GED diploma
6. One year beyond high school
7. 2-3 years beyond high school
8. College graduate
9. Graduate work

DD. What is the highest grade your mother has completed? (Estimate. Please complete even if you no longer live with your mother, or even though she is no longer living.)

☐

1. Less than 7th grade
2. 7th-8th grade
3. 9th-11th grade
4. High school graduate
5. GED diploma
6. One year beyond high school
7. 2-3 years beyond high school
8. College graduate
9. Graduate work

EE. Do your parents currently provide more than one-half of your support?

☐

1. Yes
2. No

FF. What are your current sources of income, including financial assistance? (Place and X by all those that apply to you.)

____ Basic Educational Opportunity Grant
____ Educational loan
____ M.D.T.A. program
____ Parents
____ Spouse
____ Other relatives
____ Regular full-time or part-time employment
____ Savings
____ Scholarship
____ Social Security benefits
____ Summer job
____ V.A. benefits
____ Vocational Rehabilitation
____ Welfare agency
____ Work-study
____ Other (Specify)____

GG. What was your estimated income from all sources during the calendar year (1973)? (Add husband's or wife's income if you are married.)

☐

1. Less than $1,000
2. $1,000-1,999
3. $2,000-2,999
4. $3,000-3,999
5. $4,000-4,999
6. $5,000-5,999
7. $6,000-6,999
8. $7,000-7,499
9. $7,500-7,999
10. $8,000-9,999
11. $10,000-11,999
12. $12,000-14,999
13. $15,000-19,999
14. $20,000-24,999
15. More than $24,999

HH. What was your parents' income from all sources during the last calendar year (1973). (Estimate)

☐

1. Less than $3,000
2. $3,000-4,999
3. $4,000-4,999
4. $5,000-5,999
5. $6,000-6,999
6. $7,000-7,499
7. $7,500-7,999
8. $8,000-9,999
9. $10,000-11,999
10. $12,000-14,999
11. $15,000-19,999
12. $20,000-24,999
13. More than $24,999
14. Parents no longer living

II. What is your employment status? (Choose only one)

☐

1. Employed full time
2. Employed part time
3. Keeping house
4. Retired
5. Unemployed

JJ. If you are employed full time or part time, how many hours per week do you work?

☐

1. Less than 5
2. 5-9
3. 10-19
4. 20-29
5. 30-39
6. 40-44
7. 45-49
8. More than 49

KK. Who is the head of your household? (The person who is thought of as the head of your family or household.)

☐

1. Father
2. Mother
3. Yourself
4. Your spouse (husband/wife)
5. Other relative
6. Other (Specify)______________________

LL. What is the job title or occupation of the head of your household? (If retired or unemployed, write the title of the last job held.)

____

MM. What are some of the specific duties or activities of that job or occupation? (Please print)

____

____

____

Do not write
in this area

NN. Which one of the following is the best description of that job or occupation? (Place an X by the best response.)

___Business owner, manager, administrator, or official
___Clerical or sales worker
___Farm foreman
___Farm laborer
___Farm owner or manager
___Laborer (not farm)
___Operates a machine or vehicle
___Professional or technical worker
___Service worker
___Skilled craftsman or foreman (not farm)
___Unskilled worker
___Other (Specify) ________________________

OO. CREDIT STUDENTS ONLY (includes vocational technical, general education, transfer, and special credit students)--Do you plan to work toward a four-year college degree?

☐

1. Definitely yes
2. I think so
3. I do not know
4. I do not think so
5. Definitely not

PP. CREDIT STUDENTS ONLY (includes vocational technical, general education, transfer, and special credit students)--Do you plan to be employed in North Carolina after you complete your formal education?

☐

1. Definitely yes
2. I think so
3. I do not know
4. I do not think so
5. Definitely not

QQ. CREDIT STUDENTS ONLY (includes vocational, technical, general education, transfer, and special credit students)-- If your answer to the question above is 4 or 5, choose one of the responses below that best indicates your plans.

☐
1. Enter military service
2. Marriage and/or keeping house
3. Work in another state
4. Other (Specify)______

PART II: STUDENT VALUES

INSTRUCTIONS: This part of the survey is designed to study student values and the reasons why people choose to continue their education. There are no "right" or "wrong" answers to this part of the study. The best answer is your own personal opinion.

Question RR below lists 11 reasons that sometimes guide people in their decision to continue their education. You are to choose five (5) of these reasons that are most important to you.

Study the list carefully. Then place a 1 next to the reason that was most important to you in deciding to continue your education; a 2 next to the 2nd most important reason; a 3 next to the 3rd most important; a 4 next to the 4th most important; and a 5 next to the 5th most important reason. When you have completed ranking the five reasons, go back and check over your list. Feel free to make changes.

RR. Why did you decide to continue your education? (Be sure that five blanks are filled with a number as explained in the instructions.)

____To be able to contribute more to society

____To be able to earn more money

____To become cultured

____To gain a general education

____To get a better job

____To improve my reading and study skills

____To improve my social life

____To learn more things of interest

____To meet interesting people

____Parents (or spouse) want me to go

____There was nothing better to do

SS. What five (5) things about this community college/technical institute influenced you most in deciding to attend this institution? (Place a 1 by the thing that influenced you most; a 2 next to the 2nd most important thing; a 3 next to the 3rd most important; a 4 next to the 4th most important; and a 5 next to the 5th most important thing.)

____Educational programs or courses available

____Financial assistance was available

____Job placement services

____Location (nearness to your home)

____Low cost

____Open-door admissions policy

____Quality of instruction

____Student-centered instruction and activities

____Other (Specify)______________________________

PLEASE NOTE: When you have completed this form, please return it to your instructor. THANK YOU FOR YOUR ASSISTANCE.

Addendum IV: Pretest Research Instrument

STATE BOARD OF EDUCATION

Department of Community Colleges
Raleigh, North Carolina

Do not write
in this area

STUDENT PROFILE QUESTIONNAIRE

PART I: SOCIOECONOMIC CHARACTERISTICS

INSTRUCTIONS: This is a scientific study of students who are currently enrolled in North Carolina technical institutes and community colleges. Below are 45 questions which we want you to complete to the best of your knowledge. Please read each question carefully and clearly place in the box provided the number of the response which best answers the question. Individual responses will be kept strictly confidential. Thank you.

A. Social Security number:

B. Sex

☐
1. Female
2. Male

C. Race

☐
1. Black
2. Indian
3. White
4. Other (Specify)________________

D. Age

☐
1. Less than 18
2. 18
3. 19
4. 20-22
5. 23-25
6. 26-29
7. 30-39
8. 40-49
9. 50-59
10. 60-69
11. 70-79
12. Over 79

E. Marital status

☐
1. Single
2. Married
3. Widowed
4. Separated
5. Divorced

F. Attendance

☐
1. Day
2. Evening (most classes after 5 p.m.)

G. Have you ever been a full-time student at a 4-year college or university?

☐
1. Yes
2. No

H. How many hours are you in class per week?

☐
1. 1-5
2. 6-10
3. 11-15
4. 16-20
5. 21-25
6. 26-30
7. Over 30

I. How many different courses are you taking this quarter?

☐
1. One
2. Two
3. Three
4. Four
5. Five
6. Six
7. Seven
8. Eight
9. Over eight (Specify)_______

J. Are you a military veteran?

☐
1. Yes
2. No

K. Are you a resident of North Carolina?

☐
1. Yes (If this is your response, go to question L)
2. No (If this is your response, go to question M)

L. If you are a resident of North Carolina, is this institution located in your home county?

☐
1. Yes
2. No

M. Residence while enrolled at this institution

☐
1. Live with parents
2. Live with spouse (husband/wife)
3. Live with other relative
4. Boarding student
5. Other (Specify)________________________

N. Classification

☐
1. Noncredit extension student
2. New freshman
3. Returning freshman
4. Sophomore

O. Distance to class each day (one way)

☐

1. Less than one mile
2. 1-5 miles
3. 6-10 miles
4. 11-15 miles
5. 16-20 miles
6. 21-25 miles
7. 26-30 miles
8. 31-35 miles
9. Over 35 miles

P. In what program area are you currently enrolled? (Indicate only one of the following)

Credit Programs:

1. COLLEGE TRANSFER--If this is your response, go directly to question T.

2. GENERAL EDUCATION--If this is your response, go directly to question T.

3. SPECIAL CREDIT STUDENT (taking one or more credit courses, but not enrolled in a formal degree, certificate, or diploma-awarding program)--If this is your response, go directly to question T.

4. TECHNICAL (two-year occupational degree program)--If this is your response, go directly to question T.

5. VOCATIONAL (one-year or less occupational certificate or diploma program)--If this is your response, go directly to question T.

Noncredit Extension Programs:

☐

6. ACADEMIC EXTENSION (noncredit extension courses in the humanities, math, philosophy, politics, social science, or science)--If this is your response, go directly to question R.

7. APPRENTICESHIP PROGRAM--If this is your response, go directly to question R.

8. FUNDAMENTAL EDUCATION (Adult Basic Education, High School Diploma or Equivalency Certificate, Learning Laboratory)--If this is your response, go directly to question Q.

9. MDC JOB TRAINING PROGRAM--If this is your response, go directly to question R.

(More programs listed on the next page)

10. MANPOWER DEVELOPMENT AND TRAINING (MDTA)--If this is your response, go directly to question R.

11. NEW AND EXPANDING INDUSTRY TRAINING--If this is your response, go directly to question R.

12. OCCUPATIONAL EXTENSION (noncredit technical or vocational extension sources)--If this is your response, go directly to question R.

13. RECREATION EXTENSION (noncredit extension athletic, game, hobbie course or seminar)--If this is your response, go directly to question R.

Q. If enrolled in a noncredit Fundamental Education course or program, select which one of the below you are in and go directly to question R.

☐
1. Adult Basic Education (ABE)
2. High School Diploma program for adults
3. High School Equivalence Certificate (GED) program
4. Learning Laboratory

R. NONCREDIT EXTENSION STUDENTS ONLY: Do you plan to enter this or some other educational institution in a credit program at a later date?

☐
1. Yes
2. No

S. NONCREDIT EXTENSION STUDENTS ONLY: Is this the first course offered by this institution in which you have been enrolled?

☐
1. Yes
2. No

T. What one person influenced you most in deciding to attend this institution? (Choose only one)

☐

1. Community college/technical institute recruiter or other institutional personnel
2. Employer
3. Academic high school teacher
4. High school counselor
5. Vocational high school teacher
6. Parent
7. Spouse
8. Other relative
9. Friend (not a student)
10. Student
11. Social service agency (Employment Security Commission, Vocational Rehabilitation, Welfare, etc.)
12. Other (Specify)______________________________

U. How did you first learn of the program or course in which you are now enrolled? (Choose only one)

☐

1. Community college/technical institute recruiter or other institutional personnel
2. Employer
3. Academic high school teacher
4. High school counselor
5. Vocational high school teacher
6. Literature from the institution
7. TV, radio, newspaper
8 Parent
9. Spouse
10. Other relative
11. Friend (not a student)
12. Student
13. Social service agency (Employment Security Commission, Vocational Rehabilitation, Welfare, etc.)
14. Other (Specify)____________________________

V. Would you have attended another educational institution this year if this institution had not existed?

☐

1. Yes
2. No

W. Was this institution your first choice among postsecondary institutions for continuing your education?

☐

1. Yes
2. No

X. If your answer to the above question was "No," which type of institution was your first choice?

☐

1. Other technical institute or community college
2. Private two-year college
3. Public four-year college or university
4. Private four-year college or university
5. Other (Specify)______________________________

Y. What is the highest grade in school you have completed?

☐

1. Less than 7th grade
2. 7th-8th grade
3. 9th-11th grade
4. High school graduate
5. GED diploma
6. One year beyond high school
7. 2-3 years beyond high school
8. College graduate
9. Graduate work

Z. High school curriculum

☐

1. Business
2. College preparatory
3. General
4. Vocational
5. Other (Specify)______________________

AA. What was your grade average in high school? (Estimate)

☐

1. A (90-100)
2. B (80-89)
3. C (70-79)
4. Below C (less than 70)
5. Did not go to high school

BB. What was your high school rank upon graduation? (Estimate)

☐

1. Upper one-third
2. Middle one-third
3. Lower one-third
4. Did not graduate from high school

CC. What is the highest grade your father has completed? (Estimate)

☐

1. Less than 7th grade
2. 7th-8th grade
3. 9th-11th grade
4. High school graduate
5. GED diploma
6. One year beyond high school
7. 2-3 years behond high school
8. College graduate
9. Graduate work

DD. What is the highest grade your mother has completed? (Estimate)

☐

1. Less than 7th grade
2. 7th-8th grade
3. 9th-11th grade
4. High school graduate
5. GED diploma
6. One year beyond high school
7. 2-3 years beyond high school
8. College graduate
9. Graduate work

EE. Do your parents currently provide more than one-half of your support?

☐

1. Yes
2. No

FF. What are your current sources of income, including financial assistance? (Place an X by all those that apply to you.)

___Basic Educational Opportunity Grant
___Educational loan
___M.D.T.A. program
___Parents
___Spouse
___Other relatives
___Regular full-time or part-time employment
___Savings
___Scholarship
___Social Security benefits
___Summer job
___V.A. benefits
___Vocational Rehabilitation
___Welfare agency
___Work-study
___Other (Specify)______________________________

GG. What was your estimated income from all sources during th last calendar year (1973)? (Add husband's or wife's income if you are married.)

☐

1. Less than $1,000
2. $1,000-1,999
3. $2,000-2,999
4. $3,000-3,999
5. $4,000-4,999
6. $5,000-5,999
7. $6,000-6,999
8. $7,000-7,499
9. $7,500-7,999
10. $8,000-9,999
11. $10,000-11,999
12. $12,000-14,999
13. $15,000-19,999
14. $20,000-24,999
15. More than $24,999

HH. What was your parents' income from all sources during the last calendar year (1973)? (Estimate)

☐

1. Less than $3,000
2. $3,000-3,999
3. $4,000-4,999
4. $5,000-5,999
5. $6,000-6,999
6. $7,000-7,499
7. $7,500-7,999
8. $8,000-9,999
9. $10,000-11,999
10. $12,000-14,999
11. $15,000-19,999
12. $20,000-24,999
13. More than $24,999

II. What is your employment status? (Choose only one)

☐

1. Employed full time
2. Employed part time
3. Keeping house
4. Retired
5. Unemployed

JJ. If you are employed full-time or part-time, how many hours per week do you work?

☐

1. Less than 5
2. 5-9
3. 10-19
4. 20-29
5. 30-39
6. 40-44
7. 45-49
8. More than 49

KK. Who is the head of your household? (The person who is thought of as the head of your family or household)

☐

1. Father
2. Mother
3. Yourself
4. Your spouse (husband/wife)
5. Other relative
6. Other (Specify)______________

LL. What is the job title or occupation of the head of your household? (Please print)

____

MM. What are some of the specific duties or activities of that job or occupation? (Please print)

____
____
____

Do not write in this area

NN. Which one of the following is the best description of the job or occupation? (Place an X by the best response)

___Business manager
___Business official
___Business owner
___Clerical or sales worker
___Farm foreman
___Farm laborer
___Farm manager
___Farm owner
___Foreman
___Laborer
___Operates a machine or vehicle
___Professional
___Service worker
___Skilled craftsman
___Technical
___Unskilled worker
___Other (Specify)________________

OO. CREDIT STUDENTS ONLY--Do you plan to work toward a 4-year college degree?

☐
1. Yes
2. No

PP. CREDIT STUDENTS ONLY--Do you plan to be employed in North Carolina after you complete your formal education?

☐
1. Yes
2. No

QQ. CREDIT STUDENTS ONLY--If your answer to the question abov is "No," choose one of the responses below that best indicates your plans.

☐
1. Enter military service
2. Marriage and/or keeping house
3. Work in another state
4. Other (Specify)________________________________

PART II. STUDENT VALUES

INSTRUCTIONS: This part of the survey is designed to study student values and the reasons why people choose to continue their education. There are no right or wrong answers in this part of the study. The best answer is your own personal opinion.

The question below lists 11 reasons that sometimes guide people in their decision to continue their education.

Study the list carefully. Then place a 1 next to the reason that was most important to you in deciding to continue your education. Place a 2 next to the reason that was second most important. Then do the same for each of the remaining reasons. The reason that was least important to you should be ranked 11. When you have completed ranking all the reasons, go back and check over your list. Feel free to make changes.

RR. Why did you decide to continue your education? (Be sure that each blank is filled with a number as explained in the instructions.)

___To be able to contribute more to society
___To be able to earn more money
___To become more cultured
___To gain a general education
___To get a better job
___To improve my reading and study skills
___To improve my social life
___To learn more things of interest
___To meet interesting people
___Parents (or spouse) want me to go
___There was nothing better to do

SS. What three (3) things about this community college/technical institute influenced you most in deciding to attend this institution? (Place a 1 by the thing that influenced you most, a 2 next to the second most important thing, and a 3 next to the third most important thing.)

___Educational programs or courses available
___Financial assistance was available
___Job placement services
___Location (nearness to your home)
___Low cost
___Open-door admissions policy
___Quality of instruction
___Student-centered instruction and activities
___Other (Specify)______________________________

PLEASE NOTE: When you have completed this form, please return it to your instructor. THANK YOU FOR YOUR ASSISTANCE.

Addendum V: Student Evaluation Pretest Form

STUDENT EVALUATION SHEET

Now that you have completed the questionnaire, we would like to know what, if any, difficulty you had in reading the directions and questions or in selecting answers.

1. Were they any questions you did not understand?

   ___Yes   ___No

   If "Yes," which questions did you not understand? (Identify the questions you did not understand by placing the letter of the question in the space below. For example, if you did not understand the fourth question, you would place "D" in the space below.)

   ____

2. Were there any questions that were hard for you to answer?

   ___Yes   ___No

   If "Yes," which questions were the hardest for you to answer? (Identify the question and briefly tell why it was hard to answer.)

   ____

   ____

3. If you would be willing to talk to a researcher for 10-15 minutes sometime during the next day or two about the questionnaire, please remain a few moments after the end of class so that appointments can be made. Thank you.

Addendum VI: Pretest Handbook

Department of Adult and Community College Education
North Carolina State University at Raleigh

Ronald W. Shearon, Project Director
Robert G. Templin, Jr., Primary Researcher
David E. Daniel, Assistant Researcher

PRETEST INSTRUCTIONS

OBJECTIVES:

A. To complete 100 pretest questionnaires and student evaluations;
B. To complete instructor evaluations;
C. To complete 25 student interviews; and
D. To check institutional records against 25 randomly drawn questionnaires.

PROCEDURES:

1. On Monday, April 22, make contact with your institution as to what you are going to do, when you plan to arrive, and what assistance you will need. Keep a record of all long-distance calls.

   You will need:

   a. An institutional contact person to assist you in distributing and collecting questionnaires as well as in making other necessary institutional contacts;

   b. 100 students in class to complete the questionnaires and student evaluation sheets;

   c. A small space for conducting student interviews; and

   d. Permission to have access to student files (you or someone at the institution will be needed to check 25 of the completed questionnaires against institutional student files to determine the reliability of student responses on certain questions).

2. After arriving at your pretest institution on Tuesday, April 23, select classes (with the aid of your institutional contact) that will come as close as possible to meeting the following criteria:

   a. Yield a total pretest sample of 100 students;

   b. Include at least one day and one evening class;

   c. Include at least one ABE, GED, or Learning Lab class;

   d. Include at least one technical or vocational class;

   e. Include at least one extension class other than ABE, GED, or Learning Lab; and

   f. Include at least one class that enrolls mostly transfer students (only at community colleges).

3. After selecting classes to be included in the sample, prepare packages of pretest materials to be sent to each class, including:

   a. A letter to the instructor with an attached instructor evaluation form (be sure to fill in the name of the instructor on the letter to be sent); and

   b. The appropriate number of student questionnaires with attached student evaluation forms.

4. After preparing the above packages, distribute them to the appropriate instructors (you and/or the institutional contact may do this), following these guidelines:

   a. Inform the instructor that students are to write their name on the top of their questionnaires; and

   b. You may meet the instructor of the class if you wish to provide directions to him before class, but do not take part in the actual distribution of questionnaires to students or in giving directions to students on completing the questionnaires. You should not answer student questions about any part of the questionnaire. The class instructor should do this without your assistance.

5. After the end of the class when all student questionnaires and evaluations are completed, you and/or the institutional contact should be present to:

   a. Collect the questionnaires and student evaluations;

   b. Collect the instructor evaluation form and thank him for his assitance; and

   c. Schedule students for subsequent interviews.

6. After you have collected the student questionnaires for a given class:

a. Thoroughly mix the questions from that class;

b. Select every fourth one;

c. You or someone at the institution pull the student file for each questionnaire selected by this process;

d. Check the student's file against questionnaire responses on the following 10 questions: A, B, C, D, I, P, Y, Z, AA, and BB.

e. If the student's response on the questionnaire differs from that listed in his file, circle in red ink the response on the questionnaire that is indicated by the student file.

7. Interviews with student volunteers may be conducted any time after the student has answered the questionnaire and completed the evaluation sheet, preferably a few hours later or the next day.

The general purpose of the interview is to test the questionnaire's reliability under retest conditions. During the interview, specifically you are attempting to determine two things:

a. Does the student, after being given an opportunity to interact with you, change his original response?

b. What directions, questions, or responses on the questionnaire seem to be hard to read, unclear, inappropriate, cause misunderstanding, or cause difficulty on the part of the student?

While conducting the interviews, attempt to follow these guidelines:

a. You retain the student's questionnaire and from it read to him the questions that appear (with the exception of sex, race, or any other obvious characteristic). If the student wants to look at the questionnaire, allow him to read a blank one.

b. If the student has difficulty in understanding or responding to the question, make a note of this in red ink next to that question, and assist the student in clarifying points where necessary.

c. If, in your opinion, the student is making a response different from what he originally marked on the questionnaire, place the number of the new response next to the appropriate box in red ink and probe as to why the response is now different. Mark any observations you have in red ink near that question.

d. If the student's response in the interview is consistent with the one he marked on the questionnaire originally, do not make any notation unless there is some difficulty with the question.

e. After completing the questionnaire, except for the last two questions (RR and SS) on page 10, give the student a new, unmarked page 10 for him to complete again. Be sure that his name appears on that sheet and that you attach it to his original questionnaire.

f. If you have offered the student a $3.00 gratuity for being interviewed, have him complete the form provided for that purpose and tell him he will receive a check by mail from North Carolina State University in about three weeks.

NOTE:

For students to be interviewed, you will need to determine in advance the appropriate single response to questions LL, MM, and NN, using the Census definitions you have been provided.

Then, during the interview, you will especially want to probe to determine if the occupational category you selected was the appropriate one. If it was not, treat it as though the student had changed his response as with other questions.

If you run into any problems during the pretesting that you are unable to resolve, telephone Mrs. Brenda Warren and explain the problem. Dr. Shearon or Bob Templin will return the call as soon as possible.

The above objectives of the pretest should be accomplished and the materials returned to Bob Templin no later than Thursday evening, April 25th.

Addendum VII: Variable Name and Code Manual

PROFILE OF STUDENTS IN NORTH CAROLINA COMMUNITY COLLEGES AND TECHNICAL INSTITUTES, 1974

VARIABLE NAME AND CODE MANUAL

Department of Adult and Community College Education
North Carolina State University

Ronald W. Shearon, Project Director
Robert G. Templin, Jr., Primary Researcher
David Daniel, Assistant Researcher

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE CODE	FULL RESPONSE
CARD I					
Box	1-2	INSTIT	Institution code	01	- Rowan TI
				02	- Forsyth TI
				03	- TI of the Alamance
				04	- Southeastern CC
				05	- Coastal Carolina CC
				06	- Caldwell CC/TI
				07	- Wilkes CC
				08	- Rockingham CC
				09	- Central Piedmont CC
				10	- Gaston College
				11	- Halifax County TI
				12	- Roanoke-Chowan TI
				13	- Cape Fear TI
				14	- Blue Ridge TI
				15	- Anson TI
				16	- Central Carolina TI
Box	3-4	CLASS	Course code	01	- 01
				02	- 02
				03	- 03
				:	- :
				99	- 99
Box	5-6	STUDENT	Student code	01	- 01
				02	- 02
				03	- 03
				:	- :
				99	- 99
A	7	TIMES	How many times have you completed this questionnaire?	1	- This is the first time.
				2	- This is the second time.
				3	- This is the third time.
				4	- Four or more times.
				0	- No response.
				Blank	- No response.

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE - FULL RESPONSE CODE
B	8	SEX	Sex	1 - Female
				2 - Male
				0 - No response
				Blank - No response
C	9	RACE	Race	1 - Black
				2 - American Indian
				3 - White
				4 - Other
				0 - No response
				Blank - No response
D	10-11	AGE	Age	01 - Less than 18
				02 - 18
				03 - 19
				04 - 20-22
				05 - 23-25
				06 - 26-29
				07 - 30-39
				08 - 40-49
				09 - 50-59
				10 - 60-69
				11 - 70-79
				12 - Over 79
				00 - No response
				Blank - No response
E	12	MAR STA	Marital status	1 - Single
				2 - Married
				3 - Widowed
				4 - Separated
				5 - Divorced
				0 - No response
				Blank - No response

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE - FULL RESPONSE CODE
F	13	ATTEND	When do you attend most of of your classes?	1 - Day
				2 - Evening
				0 - No response
				Blank - No response
G	14	UNIVERSI	Have you ever been a full-time student at a 4-year college or university?	1 - Yes
				2 - No
				0 - No response
				Blank - No response
H	15	HOURS	How many hours are you in class per week?	1 - 1-5
				2 - 6-10
				3 - 11-15
				4 - 16-20
				5 - 21-25
				6 - 26-30
				7 - Over 30
				0 - No response
				Blank - No response
I	16	COURSES	How many courses are you taking this quarter?	1 - One
				2 - Two
				3 - Three
				4 - Four
				5 - Five
				6 - Six
				7 - Seven
				8 - Eight
				9 - Over eight
				0 - No response
				Blank - No response
J	17	VET	Are you a military veteran?	1 - Yes
				2 - No
				0 - No response
				Blank - No response

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE - FULL RESPONSE CODE	
K	18	RESIDENT	Are you a resident of North Carolina?	1	= Yes
				2	= No
				0	= No response
				Blank	= No response
L	19	YES-CNTY	If you are a resident of North Carolina, is this institution located in your home county?	1	= Yes
				2	= No
				0	= No response
				Blank	= No response
M	20	TYPE	Classification	1	= Noncredit extension student
				2	= New freshman
				3	= Returning freshman
				4	= Sophomore
				0	= No response
				Blank	= No response
N	21-22	PRO AREA	In what program area are you currently enrolled?	01	= College Transfer
				02	= General Education
				03	= Special Credit student
				04	= Technical
				05	= Vocational
				06	= Academic Extension
				07	= Apprenticeship program
				08	= Fundamental Education
				09	= MDC Job Training program
				10	= Manpower Development and Training
				11	= New and Expanding Industry Training
				12	= Occupational Extension
				13	= Recreation Extension
				00	= No response
				Blank	= No response

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE - FULL RESPONSE CODE
O	23	EXT-FUND	If enrolled in a noncredit Fundamental Education course or program, select which one of the below you are in.	1 - Adult Basic Education 2 - High School Diploma program for adults 3 - High School Equivalency Certificate program 4 - Learning Laboratory 0 - No response Blank - No response
P	24	EXT-ENTR	Do you plan to enter this or some other educational institution in a credit program at a later date?	1 - Yes 2 - No 0 - No response Blank - No response
Q	25	EXT-FRST	Is this the first course offered by this institution in which you have been enrolled?	1 - Yes 2 - No 0 - No response Blank - No response
R	26	HOME	Residence while enrolled in this institution	1 - Live with parents 2 - Live with spouse and/or children 3 - Live with other relative 4 - Live with other family, not a relative 5 - Live alone 6 - Live with other students 7 - Other 0 - No response Blank - No response

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE CODE	FULL RESPONSE
S	27	DISTANCE	Distance to class each day (one way)	1	Less than 1 mile
				2	1-5 miles
				3	6-10 miles
				4	11-15 miles
				5	16-20 miles
				6	21-25 miles
				7	26-30 miles
				8	31-35 miles
				9	Over 35 miles
				0	No response
				Blank	No response
T	28-29	INFLUENC	In addition to yourself, what one person influenced you most in deciding to attend this institution?	01	Community college/technical institute recruiter or other institute personnel
				02	Employer
				03	4-year college/university personnel
				04	Academic high school teacher
				05	High school coach
				06	High school counselor
				07	Vocational high school teacher
				08	Parent
				09	Spouse
				10	Other relative
				11	Friend, not student
				12	Student
				13	Social service agency
				14	Other
				00	No response
				Blank	No response

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE - FULL RESPONSE CODE	
U	30-31	INFORM	How did you first learn of the program or course in which you are now enrolled?	01	- Community college/technical institute recruiter or other institute personnel
				02	- Employer
				03	- 4-year college/university personnel
				04	- Academic high school teacher
				05	- High school coach
				06	- High school counselor
				07	- Vocational high school teacher
				08	- Literature from the institution
				09	- TV, radio, newspaper
				10	- Parent
				11	- Spouse
				12	- Other relative
				13	- Friend, not student
				14	- Student
				15	- Social service agency
				16	- Other
				00	- No response
				Blank	- No response
V	32	EXIST	Would you have attended another educational institution this year if this institution had not existed?	1	- Yes
				2	- No
				0	- No response
				Blank	- No response
W	32	CHOICE	Was this institution your first choice among postsecondary institutions for continuing your education?	1	- Yes
				2	- No
				0	- No response
				Blank	- No response

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE - FULL RESPONSE CODE	
X	34	NO-TYPE	If your answer to the above question was "no," which type of institution was your first choice?	1	- Other technical institute or community college
				2	- Private 2-year college
				3	- Public 4-year college or university
				4	- Private 4-year college or university
				5	- Other
				0	- No response
				Blank	- No response
Y	35	STUD ED	What is the highest grade in school you have completed?	1	- Less than 7th grade
				2	- 7th-8th grade
				3	- 9th-11th grade
				4	- High school graduate
				5	- GED diploma
				6	- One year beyond high school
				7	- 2-3 years beyond high school
				8	- College graduate
				9	- Graduate work
				0	- No response
				Blank	- No response
Z	36	HS CUR	High school curriculum	1	- Business
				2	- College preparatory
				3	- General
				4	- Vocational
				5	- Other
				0	- No response
				Blank	- No response
AA	37	HS AVG	What was your grade average in high school?	1	- A (90-100)
				2	- B (80-89)
				3	- C (70-79)
				4	- Below C (less than 70)
				5	- Did not go to high school
				0	- No response
				Blank	- No response

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE - FULL RESPONSE	
BB	38	HS RANK	What was your high school rank upon graduation?	1	= Upper one-third
				2	= Middle one-third
				3	= Lower one-third
				4	= Did not graduate from high school
				0	= No response
				Blank	= No response
CC	39	PA ED	What is the highest grade your father has completed?	1	= Less than 7th grade
				2	= 7th-8th grade
				3	= 9th-11th grade
				4	= High school graduate
				5	= GED diploma
				6	= 1 year beyond high school
				7	= 2-3 years beyond high school
				8	= College graduate
				9	= Graduate work
				0	= No response
				Blank	= No response
DD	40	MA ED	What is the highest grade your mother has completed?	1	= Less than 7th grade
				2	= 7th-8th grade
				3	= 9th-11th grade
				4	= High school graduate
				5	= GED diploma
				6	= 1 year beyond high school
				7	= 2-3 years beyond high school
				8	= College graduate
				9	= Graduate work
				0	= No response
				Blank	= No response
EE	41	SUPPORT	Do your parents currently provide more than one-half of your support?	1	= Yes
				2	= No
				0	= No response
				Blank	= No response

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE = FULL RESPONSE CODE
FF	42-57	INC SORC	What are your current sources of income, including financial assistance?	
	42	SORC-BOG	Basic Opportunity Grant	
	43	SORC-EDL	Educational loan	
	44	SORC-MDT	MDTA program	
	45	SORC-PAR	Parents	
	46	SORC-SPO	Spouse	
	47	SORC-REL	Other relatives	
	48	SORC-EMP	Regular full-time or part-time employment	1 = Yes 0 = No response Blank = No response
	49	SORC-SAV	Savings	
	50	SORC-SCH	Scholarship	
	51	SORC-SS	Social Security benefits	
	52	SORC-SUM	Summer job	
	53	SORC-VA	VA benefits	
	54	SORC-VOC	Vocational Rehabilitation	
	55	SORC-WEL	Welfare agency	
	56	SORC-WKS	Work-study	
	57	SORC-OTH	Other	
GG	58-59	STU INCO	What was your estimated income from all sources during the last calendar year?	01 = Less than 1,000 02 = 1,000-1,999 03 = 2,000-2,999 04 = 3,000-3,999 05 = 4,000-4,999 06 = 5,000-5,999 07 = 6,000-6,999 08 = 7,000-7,499 09 = 7,500-7,999 10 = 8,000-9,999 11 = 10,000-11,999 12 = 12,000-14,999 13 = 15,000-19,999 14 = 20,000-24,999 15 = More than 24,999 00 = No response Blank = No response

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE CODE	= FULL RESPONSE
HH	60-61	PAR INCO	What was your parents' income from all sources during the last calendar year?	01	= Less than 3,000
				02	= 3,000-3,999
				03	= 4,000-4,999
				04	= 5,000-5,999
				05	= 6,000-6,999
				06	= 7,000-7,499
				07	= 7,500-7,999
				08	= 8,000-9,999
				09	= 10,000-11,999
				10	= 12,000-14,999
				11	= 15,000-19,999
				12	= 20,000-24,999
				13	= More than 24,999
				14	= Parents no longer living
				00	= No response
				Blank	= No response
II	62	EMPL STA	What is your employment status?	1	= Employed full time
				2	= Employed part time
				3	= Keeping house
				4	= Retired
				5	= Unemployed
				0	= No response
				Blank	= No response
JJ	63	YES-HRS	If you are meployed full time or part time, how many hours per week do you work?	1	= Less than 5
				2	= 5-9
				3	= 10-19
				4	= 20-29
				5	= 30-39
				6	= 40-44
				7	= 45-49
				8	= More than 49
				0	= No response
				Blank	= No response

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE - FULL RESPONSE CODE
KK	64	HEAD HOU	Who is the head of your household?	1 - Father
				2 - Mother
				3 - Yourself
				4 - Spouse
				5 - Other relative
				6 - Other
				0 - No response
				Blank - No response
LL-NN	65-66	HEAD OCC	What is the job or occupation of the head of your household?	01 - Professional, technical, and kindred workers
				02 - Business owners, managers, administrators, and officials
				03 - Sales, clerical, and kindred workers
				04 - Craftsmen, foremen, and kindred workers
				05 - Operatives
				06 - Laborers, except farm
				07 - Service workers
				08 - Unskilled workers, except farm
				09 - Farm owners and managers
				10 - Farm foremen
				11 - Farm laborers
				12 - Other
				00 - No response
				Blank - No response
OO	67	CUR-PLCO	Do you plan to work toward a four-year college degree?	1 - Definitely yes
				2 - I think so
				3 - I don't know
				4 - I don't think so
				5 - Definitely not
				0 - No response
				Blank - No response

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE - FULL RESPONSE CODE
PP	68	CUR-PLWK	Do you plan to be employed in North Carolina after you complete your formal education?	1 - Definitely yes 2 - I think so 3 - I don't know 4 - I don't think so 5 - Definitely not 0 - No response Blank - No response
QQ	69	NOCUR-PL	If your answer to the question above was "I don't think so" or "definitely not," choose one of the responses that best indicates your plans.	1 - Enter military service 2 - Marriage and/or keeping house 3 - Work in another state 4 - Other 0 - No response Blank - No response
	80			1 - Card One

CARD II

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE - FULL RESPONSE CODE
	1-2	INSTIT	THESE ARE ALL DUPLICATED FROM CARD I, COLUMNS 1-6	
	3-4	COURSE		
	5-6	STUDENT		
RR	7-17	VAL REAS	Why did you decide to continue your education?	Rank 1 = 1 2 = 2 3 = 3 4 = 4 5 = 5 0 = No response Blank = No response
	7	REAS-SOC	To be able to contribute more to society	
	8	REAS-MON	To be able to earn more money	
	9	REAS-CUL	To become more cultured	
	10	REAS-ED	To gain a better education	
	11	REAS-JOB	To get a better job	
	12	REAS-RED	To improve my reading & study skills	
	13	REAS-LIF	To improve my social life	
	14	REAS-INT	To learn more things of interest	
	15	REAS-PEO	To meet interesting people	
	16	REAS-PAR	Parents or spouse want me to go	
	17	REAS-NOT	There was nothing better to do	

QUES	COL NO	VARIABLE NAME	FULL QUESTION	QUESTIONNAIRE - FULL RESPONSE CODE	
SS	18-26	VAL DEC	What five things about this community college/technical institute influenced you most in deciding to attend this institution?		
	18	DEC-PROG	Educational programs or courses available	1	Rank = 1
	19	DEC-ASST	Financial assistance was available	2	= 2
	20	DEC-PLAC	Job placement services	3	= 3
	21	DEC-LOCA	Location	4	= 4
	22	DEC-COST	Low cost	5	= 5
	23	DEC-ADMS	Open-door admissions policy	0	= No response
	24	DEC-INST	Quality of instruction	Blank	= No response
	25	DEC-STUD	Student-centered instruction and activities		
	26	DEC-OTHE	Other		
	80			2	= Card Two

Addendum VIII: Weighting Procedures

All responses, with the exceptions listed below, will have weighted frequency values by the variable "COURSES" (Card I, Col.-16) as follows:

Questionnaire code		Weighted response
1	=	1.00
2	=	.50
3	=	.33
4	=	.25
5	=	.20
6	=	.17
7	=	.14
8	=	.12
9	=	.11

If the response to "COURSES" is "0" or "BLANK," then responses will be weighted by the variable "HOURS" (Card I, Col.-15) as follows:

Questionnaire code		Weighted response
1	=	1.00
2	=	.42
3	=	.22
4	=	.17
5	=	.13
6	=	.11
7	=	.11

If the response to "HOURS" is "0" or "BLANK," then responses will be weighted by the sample mean weighted response.

If the response to variable "INSTIT" (Card I, Cols.1-2) is "15," then all responses will have the weighted frequency value of 1.00.

All cards responding to the variable "INSTIT" with "15" and responding to the variable "TIMES" (Card I, Col.-7) with "2," "3," or "4" will be sorted out and removed from the card deck. No data analysis will be performed with these cards.

PROCEDURES FOR COMPUTING SELECTED RESPONSES DEPENDENT ON PREVIOUS RESPONSES

If the response to variable RESIDENT (Card I, Col.-18) is 1, then count the response to variable YES-CNTY (Card I, Col.-19). If the response to RESIDENT is 2, 0, or BLANK, do not count the response to YES-CNTY.

If the response to variable PRO AREA (Card I, Cols. 21-22) is 08, then count the response to variable EXT-FUND (Card I, Col.-23). If the response to PRO AREA is 01, 02, 03, 04, 05, 06, 07, 09, 10, 11, 12, 13, 00, or BLANK, do not count the response to EXT-FUND.

If the response to PRO AREA is 06, 07, 08, 09, 10, 11, 12, or 13, then count the response to variable EXT-ENTR (Card I, Col.-24) and EXT-FRST (Card I, Col.-25). If the response to PRO AREA is 01, 02, 03, 04, 05, 00, or BLANK, do not count the response to either EXT-ENTR or EXT-FRST.

If the response to PRO AREA is 01, 02, 03, 04, or 05, then count the response to variable CUR-PLCO (Card I, Col.-67) and CUR-PLWK (Card I, Col.-68). If the response to PRO AREA is 06, 07, 08, 09, 10, 11, 12, 13, 00, or BLANK, do not count the response to either CUR-PLCO or CUR-PLWK.

If the response to PRO AREA is 01, 02, 03, 04, or 05, and if the response to CUR-PLWK is 4 or 5, then count the response to variable NOCUR-PL (Card I, Col.-69). If the response to PRO AREA is either 06, 07, 08, 09, 10, 11, 12, 13, 00, or BLANK, OR if the response to CUR-PLWK is 1, 2, 3, 0, or BLANK, then do not count NOCUR-PL.

If the response to variable CHOICE (Card I, Col-33) is 2, then count the response to NO-TYPE (Card I, Col.-34). If the response to CHOICE is 1, 0, or BLANK, do not count the response to NO-TYPE.

If the response to variable EMPL STA (Card I, Col.-62) is 1 or 2, then count the response to variable YES-HRS (Card I, Col.-63). If the response to EMPL STA is 3, 4, 5, 0, or BLANK, do not count the response to YES-HRS.

Addendum IX: Weighted Percentage Distribution of Responses of General Education and Special Credit Students

Addendum Table 1. Weighted percentage distribution of responses of General Education and Special Credit students in North Carolina community colleges/technical institutes, 1974, by study variable

Variable	Respondents	
	General Education	Special Credit
Sex:		
Male	62.3	42.2
Female	37.7	57.8
Total	100.0	100.0
	(474)	(284)
Race:		
Nonwhite	17.9	13.1
White	82.1	86.9
Total	100.0	100.0
	(474)	(284)
Age, yr:		
19 or less	18.2	6.0
20-25	35.4	23.8
26-29	19.9	14.0
30-59	25.4	54.0
60 or more	1.0	2.2
Total	99.9	100.0
	(475)	(282)
Marital status:		
Single	41.2	24.1
Married	55.1	67.7
Widowed	0.0	2.1
Separated	1.6	2.8
Divorced	2.0	3.2
Total	99.9	99.9
	(474)	(284)

Addendum Table 1 (continued)

Variable	Respondents	
	General Education	Special Credit
Military veteran:		
Yes	40.3	20.4
No	59.7	79.6
Total	100.0	100.0
	(475)	(282)
North Carolina resident:		
Yes	96.5	88.1
No	3.5	11.9
Total	100.0	100.0
	(474)	(283)
Institution in home county:		
Yes	71.0	74.6
No	29.0	25.4
Total	100.0	100.0
	(456)	(245)
Residence while enrolled:		
Live with parents	31.6	12.6
Live with spouse and/or children	55.0	68.1
Live with other relative	0.8	2.8
Live with another family	1.1	1.3
Live alone	5.2	9.6
Live with other students	4.0	2.7
Other	2.3	2.9
Total	100.0	100.0
	(468)	(271)
Student's income:		
Less than $1,000	13.2	3.4
$1,000-1,999	9.0	2.1
$2,000-2,999	4.8	3.3
$3,000-5,999	17.4	13.2
$6,000-7,499	5.3	8.2
$7,500-9,999	14.1	14.9
$10,000-14,999	22.0	25.2
$15,000-19,999	9.6	17.1
$20,000 or more	4.6	12.7
Total	100.0	100.1
	(444)	(252)

Addendum Table 1 (continued)

Variable	Respondents General Education	Respondents Special Credit
Parents' income:		
Less than $3,000	7.6	10.2
$3,000-5,999	20.2	13.3
$6,000-7,499	8.2	12.5
$7,500-9,999	9.6	9.1
$10,000-14,999	25.3	21.2
$15,000-19,999	12.8	4.8
$20,000 or more	11.9	19.7
Parents no longer living	4.3	9.1
Total	99.9	99.9
	(397)	(220)
Household head's occupation:		
Professional, technical, & kindred workers	11.5	30.2
Business owners, managers, administrators, & officials	16.3	17.0
Sales, clerical, & kindred workers	16.5	13.9
Craftsmen, foremen & kindred workers	21.4	15.0
Operatives	12.1	8.8
Laborers, except farm	8.0	1.2
Service workers	6.6	4.2
Unskilled workers, except farm	1.6	0.5
Farm owners & managers	1.9	5.2
Farm foremen	0.0	0.0
Farm laborers	1.3	0.0
Other	2.9	4.1
Total	100.1	100.1
	(441)	(266)
Student's education:		
Grammar school or less	1.4	2.3
Some high school	3.4	6.7
High school graduate	47.2	34.5
GED diploma	5.5	2.8
Some postsecondary education	38.9	14.7
College graduate or more	3.6	39.0
Total	100.0	100.0
	(470)	(282)

Addendum Table 1 (continued)

Variable	Respondents	
	General Education	Special Credit
Father's education:		
Grammar school or less	40.2	37.5
Some high school	18.7	17.4
High school graduate	24.9	22.4
GED diploma	1.3	0.2
Some postsecondary education	8.2	9.4
College graduate or more	6.7	13.1
Total	100.0	100.0
	(464)	(269)
Mother's education:		
Grammar school or less	27.8	22.5
Some high school	23.7	19.8
High school graduate	34.0	31.2
GED diploma	2.2	1.6
Some postsecondary education	8.4	13.6
College graduate or more	4.0	11.4
Total	100.1	100.1
	(465)	(272)
High school curriculum:		
Business	19.2	11.2
College preparatory	33.1	38.7
General	43.2	39.5
Vocational	4.1	7.5
Other	0.4	3.2
Total	100.0	100.1
	(457)	(259)
High school rank:		
Upper one-third	26.7	48.8
Middle one-third	53.1	36.4
Lower one-third	10.6	5.3
Did not graduate from high school	9.6	9.4
Total	100.0	99.9
	(460)	(267)
High school average:		
A (90-100)	12.6	26.9
B (80-89)	51.4	50.6
C (70-79)	33.8	19.4
Below C (less than 70	0.8	1.3
Did not go to high school	1.4	1.8
Total	100.0	100.0
	(467)	(277)

Addendum Table 1 (continued)

Variable	Respondents	
	General Education	Special Credit
Full-time student at 4-year college or university:		
Yes	17.4	43.3
No	82.6	56.7
Total	100.0	100.0
	(475)	(284)
Attend classes:		
Day	49.0	27.6
Evening	51.0	72.4
Total	100.0	100.0
	(475)	(283)
Number of courses taking this quarter:		
One	17.9	83.2
Two	25.3	13.5
Three	26.8	2.0
Four	20.0	1.2
Five	6.8	0.2
Six	2.8	0.0
Seven	0.4	0.0
Eight	0.0	0.0
Over eight	0.0	0.0
Total	100.1	100.1
	(475)	(284)
Hours in class per week:		
1-5	15.3	70.1
6-10	27.2	22.3
11-15	32.3	3.7
16-20	13.4	1.0
21-25	8.4	1.2
26-30	2.7	1.0
Over 30	0.7	0.8
Total	100.0	100.1
	(475)	(284)

Addendum X: Unweighted Frequency Distribution of Student Responses

Addendum Table 2. Unweighted frequency distribution of responses of students enrolled in North Carolina community colleges/technical institutes, 1974, by study variable

Variable	Respondents	
	Number	Percent
Sex:		
Female	4702	48
Male	5110	52
Total	9812	100
Race:		
Black	2071	21
Indian	75	1
White	7561	77
Other	98	1
Total	9805	100
Age, yr:		
Less than 18	102	1
18	809	8
19	1444	15
20-22	1960	20
23-25	1150	12
26-29	1170	12
30-39	1519	15
40-49	911	9
50-59	442	4
60-69	205	2
70-79	63	1
Over 79	42	1
Total	9817	100
Marital status:		
Single or engaged	4231	43
Married	4863	50
Widowed	277	3
Separated	236	2
Divorced	217	2
Total	9824	100

Addendum Table 2 (continued)

Variable	Respondents	
	Number	Percent
Attend classes:		
Day	6309	64
Evening	3500	36
Total	9809	100
Full-time student at 4-year college or university:		
Yes	1544	16
No	8252	84
Total	9796	100
Hours in class per week:		
1-5	1903	19
6-10	1551	16
11-15	1658	17
16-20	1662	17
21-25	1042	10
26-30	1161	12
Over 30	860	9
Total	9837	100
Different courses taking this quarter:		
One	2706	28
Two	1013	10
Three	1395	14
Four	2122	22
Five	1660	17
Six	629	6
Seven	175	2
Eight	52	1
Over eight	19	--
Total	9771	100
Military veteran:		
Yes	2667	27
No	7064	73
Total	9731	100
Resident of North Carolina?		
Yes	9013	92
No	772	8
Total	9785	100

Addendum Table 2 (continued)

Variable	Respondents	
	Number	Percent
If a resident of North Carolina, is this institution located in your home county?		
Yes	6479	72
No	2494	28
Total	8973	100
Classification:		
Noncredit extension student	2679	30
New freshman	1310	15
Returning freshman	2592	30
Sophomore	2178	25
Total	8759	100
Program area in which enrolled:		
College Transfer	1291	13
General Education	475	5
Special Credit student	284	3
Technical	3721	38
Vocational	1166	12
Academic Extension	513	5
Apprenticeship program	22	--
Fundamental Education	528	6
MDC Job Training program	29	--
MDTA	31	--
New and Expanding Industry	3	--
Occupational Extension	1326	13
Recreation Extension	448	5
Total	9837	100
Extension students: Plan to enter credit program at later date?		
Yes	964	38
No	1550	62
Total	2514	100
Extension students: First course in which enrolled?		
Yes	1356	54
No	1177	46
Total	2533	100

Addendum Table 2 (continued)

Variable	Respondents Number	Respondents Percent
Residence while enrolled:		
Live with parents	3100	32
Live with spouse and/or children	4651	49
Live with other relatives	276	3
Live with another family	125	1
Live alone	626	6
Live with other students	398	4
Other	348	4
Total	9524	99
Distance to class (one way):		
Less than 1 mile	1122	12
1-5 miles	3183	33
6-10 miles	1974	20
11-15 miles	1333	14
16-20 miles	803	8
21-25 miles	521	5
26-30 miles	289	3
31-35 miles	198	2
Over 35 miles	199	2
Total	9622	99
Person who influenced you most to attend this institution:		
CC/TI recruiter or personnel	1009	11
Employer	852	9
4-year college/university personnel	99	1
Academic high school teacher	107	1
High school coach	20	--
High school counselor	387	4
Vocational high school teacher	127	1
Parent	1389	15
Spouse	1089	12
Other relative	554	6
Friend, not a student	1634	17
Student	1082	11
Social service agency	210	2
Other	931	10
Total	9499	99

Addendum Table 2 (continued)

Variable	Respondents	
	Number	Percent
First learned of program or course in which enrolled:		
CC/TI recruiter or personnel	1689	18
Employer	682	7
4-year college/university personnel	87	1
Academic high school teacher	153	2
High school coach	28	--
High school counselor	570	6
Vocational high school teacher	142	2
Literature from institution	1698	18
TV, radio, newspaper	753	8
Parent	237	2
Spouse	155	2
Other relative	423	4
Friend, not a student	1312	14
Student	1204	13
Social service agency	177	2
Total	9319	99
Would have attended another institution if this one had not existed:		
Yes	5157	53
No	4528	47
Total	9685	100
Was this institution your first choice?		
Yes	7247	76
No	2268	24
Total	9515	100
If "no," which type was your first choice?		
Other CC/TI	577	28
Private 2-year college	157	8
Public 4-year college/university	1026	50
Private 4-year college/university	158	8
Other	139	7
Total	2057	101

Addendum Table 2 (continued)

Variable	Respondents Number	Respondents Percent
Highest grade completed:		
Less than 7th grade	224	2
7th-8th grade	276	3
9th-11th grade	810	8
High school graduate	4157	43
GED diploma	567	6
1 year beyond high school	1859	19
2-3 years beyond high school	1258	13
College graduate	397	4
Graduate work	150	2
Total	9698	100
High school curriculum:		
Business	1091	12
College preparatory	3011	34
General	3950	44
Vocational	702	8
Other	168	2
Total	8922	100
Grade average in high school:		
A	1319	14
B	5043	53
C	2621	28
Below C	152	2
Did not go to high school	297	3
Total	9432	100
High school rank at graduation:		
Upper one-third	2920	32
Middle one-third	4260	46
Lower one-third	681	7
Did not graduate from high school	1307	14
Total	9168	99
Father's education:		
Less than 7th grade	2040	22
7th-8th grade	1767	19
9th-11th grade	1716	18
High school graduate	2109	23
GED diploma	113	1
1 year beyond high school	352	4
2-3 years beyond high school	489	5
College graduate	490	5
Graduate work	251	3
Total	9327	100

Addendum Table 2 (continued)

Variable	Respondents Number	Respondents Percent
Mother's education:		
Less than 7th grade	1160	12
7th-8th grade	1471	16
9th-11th grade	2058	22
High school graduate	2970	32
GED diploma	75	1
1 year beyond high school	442	5
2-3 years beyond high school	481	5
College graduate	548	6
Graduate work	168	2
Total	9373	101
Parents provide more than one-half of student's support?		
Yes	2654	28
No	6859	72
Total	9513	100
Current sources of income:		
Basic Educational Opportunity Grant	309	3
Educational loan	195	2
MDTA program	119	1
Parents	2509	27
Spouse	2231	23
Other relatives	228	3
Full-time or part-time employment	5246	55
Savings	1778	18
Scholarship	329	3
Social Security benefits	692	7
Summer job	1027	11
VA benefits	2252	23
Vocational Rehabilitation	184	2
Welfare agency	152	2
Work-study	524	5
Other	554	6

Addendum Table 2 (continued)

Variable	Respondents	
	Number	Percent
Student income:		
Less than $1,000	1416	16
$1,000-1,999	1000	11
$2,000-2,999	844	9
$3,000-3,999	624	7
$4,000-4,999	464	5
$5,000-5,999	537	6
$6,000-6,999	409	5
$7,000-7,499	269	3
$7,500-7,999	280	3
$8,000-9,999	687	8
$10,000-11,999	765	9
$12,000-14,999	733	8
$15,000-19,999	575	6
$20,000-24,999	191	2
More than $24,999	101	1
Total	8895	99
Parents' income:		
Less than $3,000	846	11
$3,000-3,999	504	6
$4,000-4,999	318	4
$5,000-5,999	426	5
$6,000-6,999	440	6
$7,000-7,499	311	4
$7,500-7,999	286	4
$8,000-9,999	653	8
$10,000-11,999	854	11
$12,000-14,999	976	12
$15,000-19,999	757	10
$20,000-24,999	414	5
More than $24,999	438	6
Parents no longer living	617	8
Total	7840	100
Student's employment status:		
Employed full time	3598	38
Employed part time	2476	26
Keeping house	898	9
Retired	301	3
Unemployed	2277	24
Total	9550	100

Addendum Table 2 (continued)

Variable	Respondents Number	Percent
Head of student's household:		
Father	3039	32
Mother	685	7
Yourself	3272	34
Spouse	2208	23
Other relative	140	1
Other	182	2
Total	9525	99
Head-of-household's occupation:		
Business owner, manager, administrator, or official	1213	14
Clerical or sales worker	1033	12
Farm foreman	37	--
Farm laborer	150	2
Farm owner or manager	405	4
Laborer (not farm)	482	5
Operative	1481	16
Professional or technical worker	1096	12
Service worker	823	9
Skilled craftsman/foreman (not farm)	1717	19
Unskilled worker	117	1
Other	438	5
Total	8992	99
Credit students: Plan to work toward 4-year degree?		
Definitely yes	1545	25
Think so	1021	17
Don't know	1632	27
Don't think so	1073	18
Definitely not	808	13
Total	6079	100
Credit students: Plan to be employed in North Carolina after completion of education?		
Definitely yes	2417	40
Think so	1657	27
Don't know	1380	23
Don't think so	320	5
Definitely not	395	5
Total	6069	100

Addendum Table 2 (continued)

Variable	Respondents	
	Number	Percent
Credit students: If do not plan to be employed in North Carolina, what are your plans?		
Enter military service	25	4
Marriage/keeping house	29	5
Work in another state	458	80
Other	62	11
Total	574	100

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